JPRS-UCR-86-007

31 MARCH 1986

USSR Report

CONSTRUCTION AND RELATED INDUSTRIES

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS-UCR-86-007

31 March 1986

USSR REPORT

CONSTRUCTION AND RELATED INDUSTRIES

CONTENTS

CONSTRUCTION PLANNING AND ECONOMICS

UDC 69.003:658.012.2

PLANNING FOR TECHNICAL DEVELOPMENT SHOULD DEVOLVE TO ENTERPRISE

Moscow EKONOMIKA STROITEL'STVA in Russian No 11, Nov 85 pp 6-12

[Article by V. G. Kiyevskiy, doctor of economic sciences, professor, and department chief of the USSR Gosstroy's NIIES [Construction Economics Scientific Research Institute] and P. S. Zakharova, candidate of economic sciences and senior scientific associate: "Planning of Technical Development of Construction to a Level of New Tasks"]

[Summary] Fundamental improvement in management of scientific and technical progress and, first of all, in planning scientific and technical development is prompted by reorganization of the management system in accordance with the decisions of the April (1985) plenum of the CPSU Central Committee. The practice of planning technical development in construction must be brought in line with contemporary economy management requirements, which contemplate considerable expansion of economic independence and responsibility of enterprises and organizations. New equipment plans of construction organizations on the basis of accelerating scientific and technical progress should exert a most substantial effect on plans for economic and social development of enterprises.

"The necessity of expanding the rights and responsibilities of enterprises and organizations in economic activity puts on the agenda the question with regard to reducing the number of tasks for new equipment, which are set by higher management units. Collectives of construction organizations should have great possibilities for manifesting initiative in selecting forms and means for raising the technical level of production."

But a different situation has been developing so far. For example, the 1984 technical development plan of one republic construction ministry included 256 measures for introducing and using new equipment of which 51 or 20 percent were called for by the state plan, 24 or 9 percent by the republic plan, 87 or 34 percent by all-union ministries and only 94 or 37 percent by the construction ministry itself. The share of resourceful measures in plans of trusts often does not exceed 10-15 percent.

"The granting to construction organizations of broader rights in drawing up new equipment plans is especially expedient since higher management levels do not have detailed information on conditions of introduction of scientific and

technical achievements locally and actually do not bear responsibility for providing the tasks set by them with resources and technical specifications." Quite often there is a lack of balance between these tasks and limits of material-technical and financial resources and they are not linked with volumes of construction work and not provided with appropriate equipment. For example, the annual technical development plan of the aforementioned republic ministry included tasks for manufacturing and introducing coverings of steel reinforced concrete structures, but these measures were not carried out as there were no projects in the construction and installation program where they could be used. Tasks for using plastic pipes, large panel construction and other tasks were not fulfilled because of insufficient funds and the fact that they were formulated without taking capacities of enterprises into consideration.

Working out a technical development plan is a labor consuming process that takes 4-5 months. But as a rule, a balance of indicators with indicators of other related parts of an organization's production and economic plan is not achieved as its individual sections are developed during different periods and are not coordinated with each other. Subsequent and unavoidable correction of a formulated plan concerns a limited number of scientific and technical indicators and does not have a noticeable effect on other parts of the plan.

Possibilities of construction organizations to optimize a technical development plan are very slight since most new equipment introduction tasks are of a directive nature. Their possibilities in drawing up alternatives of a plan are negligible and are limited to a small number of measures aimed at raising production efficiency.

Indicators fixed in a technical development plan mainly reflect a products list and introduction of specific scientific and technical achievements, whereas indicators for raising technical level and improving overall economic indicators of activity are derivative. Thus, construction organizations are oriented toward a quantitative fulfillment of individual plan measures and not raising construction efficiency as a whole.

As noted at the CPSU Central Committee's June conference, scientific and technical progress requires that enterprises have greater freedom and flexibility in adopting decisions. Conditions must be established for this.

Construction organizations are not independent now in the use of their financial resources for technical renovation of production. Although a higher organization has a right to centralize no more than 15 percent of production development funds of enterprises, it does concentrate considerably more funds in its hands. Moreover, measures implemented at the expense of production development funds are quite often not provided with material and technical resources and limits of capital investments and contractual work.

Changes should be made in the existing economic stimulation system, first of all, in economic incentives for workers in order to accelerate scientific and technical progress. It is a fact that in the overall amount of bonuses being paid in construction organizations the share of bonuses paid for introducting new equipment does not exceed 2-5 percent.

In planning technical development at all levels of management, it is necessary to simulate production and economic situations and to appraise the degree of risk in adopting decisions and the socioeconomic consequences of scientific and technical achievements being used. Science and leading experience offer a broad variety of progressive technological methods, new materials, and so forth, but resources which can be alloted for raising the technical level of production are always limited. Therefore, economic substantiation of the most advantageous use of resources and optimization of decisions for obtaining best economic results is an essential stage of work in planning. New equipment tasks are called upon to be a load-carrying structure of the entire national economic plan and a leading place in plans must be occupied by qualitative indicators which reflect the gains obtained by using latest scientific and technical achievements.

The Construction Economics Scientific Research Institute has developed recommendations aimed at improving new equipment planning methodology in construction organizations. The basic idea of these recommendations is orientation in determining plan tasks toward generalizing economic indicators which reflect final construction results. "The use of generalizing indicators will make it possible to reduce the number of plan indicators and tasks with regard to new equipment and will free construction organizations of petty guardianship of ministries in selecting and determining volumes in introduction of specific scientific and technical measures. The leading role of ministries will be manifested, first of all, in deeply analyzing tendencies of scientific and technical progress and in working out a strategy of the sector's development." Construction organizations will be able to formulate technical development plans more purposefully on the basis of such indicators and tasks by taking the existing situation into account.

"All that has been said does not eliminate the necessity of planning from above the conducting of individual important measures with regard to mastering and introducing new equipment in natural measurement, but in an extremely limited nomenclature and with mandatory and full provision of them with resources and technical specifications."

Catalogues of manuals of scientific and technical achievements should become a source of basic information for working out technical development plans. Some experience in organizing collection of information on scientific and technical achievements has already been accumulated in construction and the USSR Gosstroy constantly inventories such collections on the basis of manuals of scientific and technical achievements. Regular publication of such manual catalogues for use in construction confirmed the necessity of publishing similar information documents in union and republic ministries. Development of such catalogues makes it possible to regulate and systematize information on them. Such information can be continuously renewed and presented in the form of a data bank on magnetic medium.

A linear programming method with the use of an applied programs packet is recommended for optimization of a technical development plan. The maximum of the annual economic effect obtained in the national economy from introducing the sum total of new equipment plan measures serves as a criterion for optimized calculations.

Set into a model are restrictions concerning lowering construction and installation work costs and reducing labor input as well as restrictions which take into account realistic possibilities of introducing scientific and technical achievements. Restrictions are established in the form of minimum and maximum volumes of introduction. Therefore, the values of indicators in a model are provided for in definite intervals and the volume of introduction of every measure is determined within their limits during the plan optimization process. A lower zero limit is also permissible for some measures that are subject to inclusion in a plan, which makes it possible to optimize the list of measures by excluding those which are inefficient under some conditions. In the future it is planned that information on the volume of construction and installation work in its specific structure will come in an automated mode from related subsystems of ASU [automated control system]: "Technical and Economic Planning" and "Preparation for Carrying Out Work."

"The use of the proposed system of criteria and restrictions, with the aid of which it may be possible to determine the quality of a planning and economic decision, will promote coordination of national economic and cost accounting interests of individual construction organizations."

An experimental check of the proposed methods of plan optimization has indicated that a republic ministry (glavstroy [main construction administration]) should be provided an opportunity to differentiate tasks with regard to generalizing technical and economic indicators in the light of individual directions of scientific and technical progress, which will make it possible to select efficient measures within the framework of each direction in a more purposeful manner.

Individual tasks within the framework of an overall task can be established not for all directions of scientific and technical progress simultaneously but only for those which make it possible for an organization to obtain high final results.

As a rule, new equipment does not fully produce the anticipated economic effect in the period of its mastery but only after a planned period. Therefore, it is expedient to establish tasks for a group of new equipment that is being mastered and for a group of new equipment which has already been mastered and must be used on a much broader scale.

Experience proves that most efficient scientific and technical achievements are selected for a plan and optimum volumes of their introduction are established when automated tasks for planning technical development of construction organizations are used. In so doing the volume of introduction of new equipment plan measures becomes balanced with limits of material and technical resources and volumes of construction and installation work.

"The program means for the complex of automated tasks for formation of an annual technical development plan have been checked in the PTO [not further identified] industrial construction system of the BSSR Ministry of Industrial Construction. Technical specifications have been turned over to the intersectorial fund of algorithms and programs (MOFAP ASS [not further identified] of the USSR Gosstroy)."

9817
CSO: 1821/94

CONSTRUCTION PLANNING AND ECONOMICS

UDC 69.003:658.012.2

BELORUSSIAN EXPERIMENT PRAISED, WIDER APPLICATION URGED

Moscow EKONOMIKA STROITEL'STVA in Russian No 11, Nov 85 pp 12-20

[Article by I. A. Sukhachev, candidate of technical sciences and winner of the USSR Council of Minister's prize: "Orient the Economic Mechanism Toward Acceleration of Scientific and Technical Progress"]

[Summary] Introduction of scientific and technical progress in construction in most cases is implemented during planning and conducting construction and installation work. Therefore, solving this task depends on establishing conditions under which economic interests of contractual and planning organizations would coincide. The existing economic mechanism in construction and its elements do not meet the set goal. A situation has developed in which contractors and even planners to a certain extent find themselves in worst conditions than their colleagues working in the traditional style.

The value of construction and installation work for projects as a whole is determined according to a direct calculation method. Since progressive technical solutions contemplate fulfillment of less resource-consuming work or reducing its volume, their use in plans leads to automatic reduction in the value of construction output and all activity indicators derived from it. "As a result, planners, who have provided for progressive solutions in a project, encounter resistance of contractors during coordination of such a project, because it is to their advantage to get an uneconomical project that is obsolete with regard to its solutions and then introduce individual improvements in it in the form of innovations, which do not reduce the estimated value of projects. This scheme of relations cannot be recognized as economically sound."

Best results can be achieved if planners and contractors would conscientiously fulfill their own work and have a common interest in improving economic parameters of jointly created production. This identity of orientation of public interests and interests of individual collectives participating in construction was used as a basis of the economic mechanism developed by specialists of the BSSR Gosstroy and the Belorussian Branch of the VNIPI [All-Union Scientific Research and Planning Institute] of Labor in Construction of the USSR Gosstroy, which has been undergoing experimental testing as of 1982 in the Belorussian and Lithuanian SSRs and in rural construction of the RSFSR since 1985.

"In carrying out this experiment, the estimated value of construction and installation work with regard to buildings and structures being erected, which was mutually coordinated between a customer and a contractor at the earliest possible stage of planning, is stable." This value is not liable to change if scientific and technical achievements are used in a working plan.

Twenty-five percent of the savings formed owing to the difference between the stable value of construction and installation work and their value determined in working plans is directed to the state budget, 25 percent for reimbursement of increased production costs of contractors, and 30, 17.5 and 2.5 percent respectively for economic stimulation of contractors, planners, and customers.

Plans for the construction of 337 projects have been developed on the conditions of the experiment and approved by organs of experts in the BSSR alone. "The savings from using scientific and technical achievements in them amounted to R15 million or 5 percent of the stable value of construction and installation work. In this case the planned expenditure of metal was reduced by 11,600 tons and of cement by 23,800 tons and manpower expenditures were reduced by 375,000 man-days." One hundred seventy-three of the aforementioned projects have already been commssioned.

We believe that the overall conception of the new system of economic relations between participants in construction is correct and is capable of stimulating work in accelerating scientific and technical progress in the process of planning and construction. Methodical provisions of the experiment have already been sufficiently developed and checked in practice and can be used as a basis in improving the sector's economic mechanism.

Improving the system of plan indicators is also an important part of this process, because an unjustifiably large number of uncorrelated production and economic activity indicators are set for contractual organizations at present. Among such indicators are the ones for production, labor, finances, new equipment, material and technical supply and own construction. Various norms are also established in a centralized order in addition to the aforementioned indicators. Such a large number of indicators deprives contractual organizations of flexibility in managing the production process and does not promote development and strengthening of cost accounting.

"In this connection it seems to us that as basic indicators, which would sufficiently characterize the results of production and economic activity of a construction and installation organization, the following can be established:

"commissioning of production capacities and construction projects (in physical and value terms);

"profits;

"production cost norm per R1 of construction and installation work, including physical input and wage fund norms; and

"labor input norm per R1 of construction and installation work.

"Along with the aforementioned indicators, the following limits and norms should be established for a construction and installation organization:

"funds of material and technical resources;

"norm for profit withholding to state budget;

"norms for formation of economic incentive funds (economic stimuls fund, socio-cultural measures and housing construction fund, and production development fund);

"norm for development of a unified science and technology development fund; and

"limit of capital investments (centralized and noncentralized) in own construction."

All plan norms must be stable for at least 5 years, construction ministries and their organizations must calculate the volume of construction and installation work, number of workers, the wage fund, and own construction indicators and compile the income and expenditure balance only on the basis of confirmed indicators and only the aforementioned indicators can be taken into account in appraising the work of construction and installation organizations.

It happens quite often now that construction industry enterprises under the jurisdiction of contractual organizations are on an industrial balance, have a purely administrative connection with construction and there is no community of interest between them. The existing system of planning and appraising the activity of such enterprises prompts them toward increasing the output of most materials-intensive kinds of commodity and gross production.

It seems expedient to switch such enterprises to a construction balance, but under existing conditions such a switch automatically entails the loss of a labor collective's independence and the rights of an enterprise. To avoid the negative phenomena in switching construction industry enterprises to construction balance it is necessary to give them a status of production subdivisions with their own management staff and retention of wage conditions. At the same time, it is expedient to abolish the accountability of such subdivisions for the cost of commodity and gross production and the output in monetary terms and to regard comprehensive and prompt provision of construction projects with goods as main indicator of planning and activity assessment. Thus, production units of an industrial nature with economic interests oriented toward results of construction activity will appear in contractual organizations.

The cost of material resources in construction amounts to more than half of all production costs. Centralization in UPTK [Production and Technological Complete Equipment Supply Administration] of material supply to construction and installation production units creates conditions for improving cost accounting relations between subdivisions of a contractual organization. In solving this task it must be assumed that all deviations from actual cost of acquiring and delivering materials to construction projects from estimated prices are determined

only by the activity of a production and technological complete equipment supply administration, but deviations connected with the quantity of materials used after delivery must apply solely to work results of construction sectors and brigades. However, there is no such precise differentiation at present, which has led to the fact that attention to work profitability has been sharply relaxed in many administrations. We believe that in order to ensure precise differentiation it is necessary to stop using planned accounting prices for materials and instead conduct all accounting between a production and technological complete equipment supply administration and a construction project according to prices for materials in estimates for a specific project.

The use of estimated prices for materials instead of accounting ones will lead to the fact that all deviations will manifest themselves in balance work results of a production and technological complete equipment supply administration and its responsibility for reducing expenditures will increase. It is expedient to permit deviation from estimated prices for materials only in two cases: in raising prices when a production and technological complete equipment administration brings materials to an increased preliminary readiness and in reducing prices when materials delivered to a construction project require additional expenditures during their use.

The expansion of rights of trusts (associations) in labor and wages is a component part of the economic mechanism improvement problem. At the present time, they develop a management structure and staff in conformity with a standard confirmed by a higher organ. Such structures and staffs, which function for many years in ministries and departments, do not always reflect the specific activity of every construction and installation organization. But under the existing conditions the management is deprived of the possibility to select the most optimum version of a management structure for trusts (associations). It is expedient to grant them the right to develop the structure and staff themselves within the bounds of wages and the limit on the number of workers. Ministries and departments should only make recommendations on this question.

Although, the management of construction and installation organizations must organize workers' labor correctly, create conditions for the growth of labor productivity and ensure labor and production discipline, there are some restrictions connected with solving these questions, including the need to get permission of higher management organs for introducing aggregate time accoutning, duty-shift labor organization method, and so forth.

"In this connection, it is necessary to grant supervisors of trusts (associations) the right to independently set a labor routine for workers, including solving the question on introducing aggregate working time accounting, duty-shift labor organization method, and so forth."

An analysis of the negative phenomena in organization of construction workers' wages as well as a study of domestic and foreign experiences has made it possible to conclude that the main reason for shortcomings in this matter is excessive regulation and restriction of rights of construction organizations in distributing and using planned funds for wages.

Piece-rate (piecework) wage plus bonus system has now gained the most popular dissemination in construction, covering approximately 80 percent of pieceworkers, but the system's basic principles do not correspond to contemporary requirements. Some modifications of the piecework wage system being used by construction organizations have failed to gain official recognition and proper dissemination. This indicates that it is time to adopt fundamentally new decisions in the organization of construction workers' wages.

"We believe that it is expedient to develop some wage systems directed at purposeful motivation in achieving certain work indicators of construction organizations by taking specific production conditions into consideration. It should be noted that specialists of the Belorussian Branch of the All-Union Scientific Research and Planning Institute of Labor in Construction have already developed the principles of creating such systems. A new piecework wage system for pieceworkers with regard to standardized plan-assignments was formed on the basis of these principles, which, along with other systems, can be used successfully in construction. The essence of this system consists in using unified indicators for appraising production activity of brigades and a construction organization as a whole that is linked with wages and payment of bonuses to workers as well as in using the new mechanism in the formation and calculation of their earnings, which ensures strict adherence to the principle of pay according to labor."

Stable norms per Rl of construction and installation work should be used as a basis in forming an overall wage fund and savings of the wage fund must be used in accordance with resolution No 87 of the USSR Council of Ministers and the AUCCTU of 24 January 1985. It is advisable to consider the experience of the Glavmosoblstroy [Main Administration for Construction in Moscow Oblast] in distributing the wage fund among members of a collective. Distribution of a collective wage fund among all workers must depend on the contribution by each to overall work results.

It is also necessary to allow supervisors of construction and installation organizations to set salaries for engineering and technical personnel within the bounds of a planned wage fund and to increase the range between their minimum and maximum salaries.

Extensive work must also be conducted in improving management of capital construction, including centralization of individual management functions where it is economically expedient and concentration of staff management functions in a trust.

Development of a system of scientifically sound norms, fixed standards and standardized indicators for all levels of production management is also a serious problem in improvement of construction management. It is impossible to fully ensure the principle of reality in planning and management without such norms and fixed standards as well as fair appraisal of activity of collectives and their supervisors. At present it is necessary to determine a general line and to coordinate work of the sector's leading scientific research institutes in developing such fixed standards.

Accelerated development of an automated comprehensive system of norms (AKSN) is needed because introduction of the system will sharply increase the quality of normative materials and promote raising labor productivity, reducing production cost and increasing construction profitability.

9817
CSO: 1821/93

CONSTRUCTION PLANNING AND ECONOMICS

PRAVDA URGES CAPITAL CONSTRUCTION PRIORITIES, INCENTIVES

Moscow IZVESTIYA in Russian 4 Feb 86 p 1

[Editorial: "Improve the Management of Construction Projects"]

[Text] The panorama of our construction projects is enormous. In the 15 years to the year 2000, we will have to double the production potential and raise labor productivity by a factor of 2.3 to 2.5. The requires a fundamental improvement in the management of the economy and above all of capital construction, with the help of which the national economy is developed.

The strategy for reaching such limits was worked out at the April and October (1985) plenums and conferences in the CPSU Central Committee and in precongress party documents. "In developing centralized principles in management and planning and in the resolution of strategic tasks," states the draft of the new version of the CPSU Program, "the party will actively implement measures to increase the role of the basic production link--the associations and enterprises--and will consistently carry out the line of expanding their rights and economic independence and of increasing their responsibility and incentive for the achievement of high final results."

The country has accumulated wide experience in the organization of capital construction, which can be descriptively compared with the foundation of the structure of the entire economy. In the 12th Five-Year Plans, there will be significantly greater appropriations for the development of the machine building complex, especially for machine tool building and instrument building. The growth in the program for the reconstruction and technical reequipment of enterprises is no less important as an indicator of the reorientation of the national economy toward the acceleration of scientific-technical progress.

What is needed above all is an economic maneuver to make the amount of construction and reconstruction correspond to the possibilities of the construction industry and the capacities of contract organizations. We now need no less than 5 or 6 years just to complete construction projects that have alrady been started, although, as you know, many types of equipment become obsolete in less time than that. This means that in the next year or two, in agreement with the USSR Gosplan and the councils of ministers of the

union republics, it will be necessary for the ordering ministries and contractors to halt or temporarily discontinue the construction of some projects and to accelerate drastically the construction of others.

The mobilizing force of the plans for capital construction is diminished by the lack of complete balance in the plans and by the establishment of additional tasks for the trusts by the councils of ministers of the union republics without allocating materials. Frequently the plans are formed without taking into account how the program for the year preceding the planning year will be fulfilled. A unified system for the planning of capital investment is called upon to raise the quality of management. The workers of Gosplan, Gosstroy, Gossnab and other authorities were obligated to establish this plan by 1 January 1986. But his work is being delayed. The system for the financing of construction is in need of significant improvement. It is important for the enterprises themselves to earn the funds for reconstruction and construction. Then the collectives will make more efficient use of capital investments.

The group of 800,000 specialists of planning institutes also bears responsibility for the fate of scientific-technical progress. In fulfilling the role of the connecting link between science and production, they are called upon to establish the projects of the enterprises not in pursuit of but surpassing the achieved level of technology and to lower the cost of production. With this goal, the USSR Gosstroy, the ministries, and the collectives of the institutes must make alternative and competitive planning the norm, improve on the system of evaluating the quality of projects, and increase the incentive of planners in the reconstruction of enterprises.

Special efforts are needed to establish order in the supplying of construction projects. Materials reach the sites with no consideration of the rate of flow of the construction conveyor and equipment is poorly prepared for assembly. The accounting for resources is unsatisfactory: they are issued in accordance with the standards per million rubles of construction assembly, are expended according to the blueprints, and are written off in accordance with production standards. As a result, materials are overexpended, there is an increase in their above-standard stocks, and the introduction of facilities is disrupted. This is why, along with the unified planning system, it is expedient to accelerate the establishment of a unified system for supplying construction with materials and equipment.

Difficulties in increasing the production potential are frequently caused by the imperfection of the organizational structure of sector management. Over the last decade, the process of the concentration of construction production has slowed. Small-scale organizations are appearing, including in nonconstruction ministries, even though they are not able to achieve high labor productivity, improve quality or lower the cost of work. The decision to carry out work in the regions with the forces of one, as a rule, general contracting formation has yet to be realized in practice. Mobile construction subdivisions are being established only slowly. All of this convinces one that the construction complex needs to be managed as a single whole. Such an approach is essential to raise the level of industrialization more rapidly, to

reduce manual labor, and to convert the construction project into a conveyor for the assembly of structures.

But the builders will be able to fulfill their role in the development and renewal of the country's production potential completely only if they begin to work under the principles of full cost accounting. Their wages still depend more upon the cost of expended materials that upon the expenditure of labor. It is therefore economically disadvantageous for the builders to introduce progressive inexpensive designs or to reduce the cost of labor.

To manage the sector means above all to manage the economic interests of people. It is necessary to put the contractor and the customer under conditions that would not allow any delay in the reimbursement of capital investments, disruption of the economic agreement, a low technical level of the enterprises under construction, or an overexpenditure of resources.

The local party, trade union and Soviet authorities need to intensify the work for the improvement of the organization of labor at the construction projects and seek to give it a smoother flow and higher quality and to reduce material and financial expenditures. It is essential to set up the entire system of the management of the construction complex so that it can successfully fulfill its role in the acceleration of scientific-technical progress and in the resolution of those grandiose plans to be adopted by the 27th CPSU Congress.

9746
CSO: 1821/121

CENTRALIZATION OF UKRAINIAN REPAIR SERVICES ADVOCATED

Moscow EKONOMICHESKAYA GAZETA in Russian No 3, Jan 86 p 9

[Article by V. Smirichinskiy, candidate of economic sciences: "On the 'Repair' Program"]

[Text] Ternopol--Investigations carried out by the staff workers of our Ternopol Financial and Economic Institute during the 11th Five-Year Plan following the example of the Ukrainian SSR Ministry of Construction Materials show that there are substantial reserves for improving the work of the repair services that do not require significant capital investments.

In our view, it is very important to raise the level of intrasectorial and intraplant centralization and specialization of repair production. To do this, it is necessary to overcome the unjustified decentralization of repair operations and create the possibility for the introduction of efficient forms and methods of organizing repair work, mechanization and, in a number of cases, automation of labor-intensive machine tool and fitting work.

Under the conditions of the Ukrainian SSR Ministry of Construction Materials, the territorial consolidation of repair organizations located in regions of the concentration of enterprises subordinate to one and the same republic industrial association appears to be economically justified. In our view, the establishment of industrial repair complexes on this basis can ensure the restoration of industrial equipment, including large-capacity equipment, in a short time.

Under today's conditions, repair work has practically become an independent type of production. The approach to it, as an integral part of basic production, requires a review of the planning, organization and determination of the economic effectiveness of repairs.

A study of the advanced experience of a number of industrial sectors indicates that they have achieved considerable success in the organization and cheapening of different types of repair work. In the coal-mining and metallurgical industry, for example, a relatively high level of concentration and specialization of repair production has been achieved. And firm repair is widespread in the machine building and motor vehicle industries as well as in agriculture.

In our opinion, for these achievements to become the property of other sectors as well, a scientific-technical republic "repair" program is essential.

9746
CSO: 1821/121

NEGLIGIBLE RISE IN LABOR PRODUCTIVITY SEEN IN CONSTRUCTION

Moscow EKONOMICHESKAYA GAZETA in Russian No 45, Nov 85 p 16

[Article by Prof. N. Kachalov of Moscow under the heading: "Reserves for Industrialization of Construction": "The Mechanism for Introducing Innovations--How to Improve it?"]

[Text] The level of industrialization of construction is already determined at the design stage of the project, when effective three-dimensional planning and design decisions are made. Presently, not less than 30 percent of all planned reduction in labor costs is achieved by virtue of such planning decisions. In the coming two five-year plans this indicator must be doubled.

We note that these data figure only in planning estimates. But you see, in the indicator for actual labor productivity in construction, the proportion of growth of this indicator due to introducing the achievements of scientific and technical progress finds hardly any reflection in statistical accounting. The underrated proportion of actual growth of labor productivity on an annual average reaches, as calculations show, almost two percent --which amounts to more than half the planned assignment.

One of the main causes of this situation lies in the fact that branch savings in labor costs simply cannot be reflected through the production indicators currently in use in terms of cost, be it gross or normative quasi-net production.

It must be stated frankly that the new planning decisions quite often lead to unwarranted reduction of the planned wage fund, or of planned expenses for materials; or to worsening of the basic qualitative indicators for the production and economic activities of subcontracting organizations. And this is why builders prefer plans for constructing buildings and works in which the estimated costs are a bit higher, with a greater share of costly construction, parts and materials. With the reduction of estimated construction costs, including that due to reducing the volumes of construction-installation work, the need for labor costs also declines.

For example, during the years 1981-1983, according to the workups of 370 planning organizations, as the result of using the achievements of science and technology in planning decisions, the reduction of estimated costs for construction-installation work amounted to 3.9 percent on an annual average, while the reduction in labor costs on the construction site amounted to 4.3 percent. With an approximately equal proportion of reduction in labor costs

and estimated costs for work, the accounting indicator for output in this case did not reflect the savings achieved in labor costs, although these savings were taken into consideration when the planned task for growth of labor productivity was being drawn up.

The existing system of indicators encourages builders to resist the use of effective design decisions. As a rule, implementing them requires considerable extra efforts and expenses of the construction and installation organizations (on the basis of non-traditional technological methods for carrying out the work, training and retraining the cadres, setting up or reorganizing existing industrial capacities at construction industry enterprises, use of new types of tools, additional means of mechanization, etc.). And it is no accident that of late, so-called rationalization of plans on the basis of suggestions from the construction organizations is becoming an increasingly widespread practice. This rationalization permits lowering the construction costs with respect to the approved estimates later on, after the blueprints are sent to the construction site.

Rationalization in and of itself should be supported and encouraged in every way, but not, in my opinion, in the direction in which it is presently headed. What's going on? The construction organizations, under various pretexts, are deviating from the coordinated effective design decisions: they accept a basic plan, and then proceed to "rationalize" it. At the same time they quite often make use of the output of scientific research and design organizations which they had sidetracked previously, or "correct" the shortcomings and omissions in the expert opinions in the plans. And the existing method of determining the actual growth of labor productivity in production, which was described above, encourages this practice.

Whereas 20-25 years ago the volume of cost-cutting measures suggested by the construction organizations was of insignificant proportions (about 0.2 percent of the volume of construction-installation work), presently this proportion has grown significantly. The volume of instruction-installation work "economized" in this manner is indicated in the accounting as if it had been carried out. Moreover, funds and material-technical resources are allocated to its contractor. Such a practice is sanctioned by Point 45 of the Law on Contracts for Capital Construction adopted over 15 years ago. Currently this practice is doing significant harm to the national economy; it promotes unwarranted diversion of tens of millions of rubles from the budget, and receiving surplus funds for material resources and wages.

It is completely obvious that Point 45 of the Law on Contracts for Capital Construction must be made more exact. The instruction should be deleted which states that the sum of the reduction in estimated construction costs which result from measures taken by the contractor be taken into account in fulfilling the plan for contracted construction-installation work. In our opinion only half of these savings can be left at the disposal of the contractor and taken into account in fulfilling the task for reducing production costs (in terms of profit). The other half of the savings should be returned to the state budget.

9006
CSO: 1821/99

MANPOWER SHORTAGE IN CONSTRUCTION JOBS FOR UzSSR CITED

An article on labor shortages and turnover in the construction sector in Uzbekistan was published in Tashkent EKONOMIKA I ZHIZN in Russian No 8, August 1985. The article was written by I. Tokhtamyshev and entitled "I'm Asking To Be Laid Off". For the text of this article, see pages 42-44 of the USSR REPORT: HUMAN RESOURCES, JPRS-UHR-86-002 of 23 January 1986.

CSO: 1821/124

BRIEFS

CONSTRUCTION INJURIES--Analysis of on-the-job injuries when carrying out construction-installation work shows that the number of accidents caused by people falling, or objects falling on people from high places, remains quite high and amounts to more than one-third of all injuries, as shown by the overall injury rate. [Exerpt] [Moscow NA STROYKAKH ROSSII in Russian No 11, Nov 85 p 48][COPYRIGHT: Izdatelstvo "Sovetskaya Rossiya", "Na stroykakh Rossii"] 9006

CONSTRUCTION LABOR PRODUCTIVITY--Over the four years of the current five-year plan, growth in labor productivity achieved at Glavmosoblstroy [Moscow Oblast Main Construction Administration] reached 6.1 percent for construction and 13.2 percent for industry. In the first half of 1985, 34 and 37 tasks were fulfilled in the state plan for the economic and social development of the RSFSR from the section, "Development of Science and Technology: Construction and the Construction Materials Industry". Work continued on further industrialization of construction, the proportion of which has reached 66 percent. The proportion of the new series of residential buildings made with large-panel construction methods rose to 88 percent (In 1980, the figure was 67 percent). Following the experience of the Leningrad program, "Intensification-90," Glavmosoblstroy has developed and is at the approval stage of a regional comprehensive scientific-technical program for intensification of construction production in the 12th Five Year Plan, the realization of which will permit increasing labor productivity by 18 percent and provide significant savings in labor and material resources. However, there are still significant shortcomings in the work of the main administration. The growth rate for labor productivity in construction is lower than planned for the four years of the five-year plan. A number of tasks in the state plan for the economic and social development of the RSFSR have not been fulfilled. Growth is slow in the volume of large-panel construction of buildings for cultural and social purposes, and for public buildings and supporting structures at industrial enterprises built with standardized large-panel designs, and others. There is not sufficient coordination of plans for scientific-research work with the realization of their results in practical construction work, and experimental construction is not being carried on in a satisfactory manner. [Exerpts] [Moscow NA STROYKAKH ROSSII in Russian No 12, Dec 85 pp 56-57][COPYRIGHT: Izdatelstvo "Sovetskaya Rossiya", "Na stroykakh Rossii"] 9006

CONSTRUCTION IN AMURSK--The collective of the Amurskstroy trust has accepted the socialist obligation to complete ahead of time the task for the year and for the five-year plan, and to turn over 8,000 square meters of living space above the plan, in honor of the forthcoming 27th CPSU Congress. This trust is the same age as the young city. Many of the construction workers began by building the streets and avenues here out of the first dirt roads. Now industrial giants--cellulose carton and lumber industry combines--are producing their goods in the city. Multi-story buildings have been raised up near the river. At present the construction workers are ahead of schedule in putting up two nine-story buildings, which are being built with articles from the recently-opened shop for large-panel building construction. Amursk is a satellite city of the legendary Komsomolsk-na-Amure. It is fitting that the citizens of Amursk are helping to construct the shock projects of the five-year-plan in the city of youth. On construction of the Far East Hot-reduction M tallurgical Plant alone, the collective of the Amurskstroy Trust has assimilated more than 7 million rubles. [Text] **[Article by Khabarovsk Kray IZVESTIYA Staff Correspondent B. Reznik] [Moscow IZVESTIYA in Russian 11 Dec 85 p 1] 9006**

GENERAL PLAN FOR DEVELOPMENT OF MINSK--A group of specialists and production innovators from the Minskproekt and Minskinzhproekt instutes, from the Minskstroy combine, the Minskstroymaterialy association, and a number of other organizations have been awarded the Prize of the USSR Council of Ministers for 1985 for developing the general plan for the development of Minsk and for implementing its first stage. Here they are effectively using and developing the unit-section method for housing construction. Capacities of the construction industry enterprises are being fully used. Construction quality is improving systematically. Large housing complexes have been created in accordance with the general plan, and a number of architectural ensembles have been formed. One of the significant achievements in the realization of the general plan was the solution of the problem of flooding and transformations to the city's landscape based on regulating the flow of the Svisloch River, and construction of the Slepyanskaya and Loshchinskaya Water Systems. Metro lines have been put into operation, and the introduction of progressive technical solutions to civil-engineering facilities have significantly improved transportation and municipal-everyday services to the populace. Effecient designs and materials were used in creating the projects. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 50, Dec 85 p 12] 9006

ARCHITECTURAL DESIGN IN UKRAINE--A congress of Ukrainian architects was held in the capital. Secretary of the Ukrainian CP Central Committee B. Kachura spoke at the congress. The report was delivered by I. Sedak, board chairman of the UkSSR Union of Architects. At the congress the need was stressed to grapple with the monotony of city building and architectural solutions, and to seek for each city and settlement its own unique expressive features; to more fully consider the natural peculiarities and local traditions; and to make better use of the territories being built up. [Exerpt] **[Article by G. Dolzhenko, Kiev] [Moscow, STROITELNAYA GAZETA 27 Nov 85 p 3] 9006**

PLAN FOR ULYANOVSK DEVELOPMENT--The development of the city of Ulyanovsk for the coming 20 years was discussed at a regular session of the RSFSR Council of Ministers. Specifically, the plan envisages forbidding new construction of industrial enterprises in the city, except for those necessary for direct services to the populace and for the needs of municipal, roads, and civilian housing construction, as well as for nature conservation projects. Seven planned regions will be built, which provide to the residents all conditions for highly-productive labor, culture and healthy relaxation. Toward this end, it is planned to construct additional housing with a total area of 9.3 million square meters, which will bring the available housing to a total of 16 million square meters, and will thus increase the housing available to 18 square meters per person. At the same time the total city population will grow by a factor of 1.5, and will reach 850-900,000 people. In order to improve transportation connections in the city, it is planned to create a system of general city and regional main lines; and bypasses, overpasses and alternate routes will be created. A large bridge will span the Volga. Rapid-transit trolley lines will be built, and in the future, a subway. Nor have private automobile owners been forgotten--sufficient garages will be built for them, as well as public parking places. [Exerpts] **[Article by special IZVESTIYA correspondent F. Seleznev] [Moscow IZVESTIYA in Russian 13 Dec 85 p 1] 9006**

BAYPAZINSKAYA GES--Nurek--The power workers of Baypazinskaya GES [Hydroelectric Power Station] are confidently exceeding the planned targets in the production of electric power. This fact might not be considered anything unusual if it were not for one circumstance. The construction and operation of the GES is being carried out by one organization--Nurekgesstroy. It was decided to put the GES into full-time "turnkey" operation, not only completely constructed but with the equipment fully checked out. The builders, assemblers and operators are all interested in a rapid final result. The many advantages of such an approach are obvious. The first hydraulic turbogenerator unit was put into operation in the fourth year from the start of the work, a year sooner than at the Kurpayskaya GES, which was considered to have been built in record time. Many economic relations were simplified. For example, they abolished a tradional subdivision, the directorate of the electric station under construction. The Tadzhikgidroenergostroy trust is performing the role of the buyer and organizer of deliveries. [By L. Kaybysheva] [Text] [Moscow IZVESTIYA in Russian 2 Feb 86 p 1] 9746

CSO: 1821/121

GOSPLAN OFFICIALS CITE SLOW RECONSTRUCTION WORK IN CERTAIN SECTORS

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 12, Dec 85 pp 20-30

[Article by USSR Gosplan Deputy Department Heads A. Stepun and V. Balakin: "Factors in Increasing the Effectiveness of Capital Construction: Discussing the Draft of Basic Trends in USSR Economic and Social Development During the 1986-1990 Period and Until the Year 2000"]

[Text] In the draft of basic trends in USSR economic and social development during the 1986-1990 period and until the year 2000, which was published for nationwide discussion, paramount importance is attached to successfully implementing the specified capital construction program and providing a substantial turn towards an increase in the effectiveness of capital investments. It's indicated in the draft that capital construction is called upon to provide for the creation and accelerated replacement of fixed capital for the national economy. And further on: "To concentrate material, financial, and labor resources first and foremost on retooling and modernizing operating enterprises and on constructing projects that determine scientific technical progress."

As we see, the idea is clearly expressed in this highly capacious formulation that the ultimate end and importance of capital construction consists not only and not so much of expending considerable material and labor resources for the creation of new enterprises or facilities, as assimilating into the national economy the most advanced achievements of technical progress by means of selecting the most progressive and effective trends of capital investments in relatively short time frames and, thereby, promoting an increase in the effectiveness of all public production. In other words, construction provides for carrying over industrial solutions that are posed in drafts and, consequently, future economic impact in the area of material production.

The organic connection of capital construction and assimilation of advanced scientific technical achievements must be accomplished during the process of planning and implementing plans in the following three directions:

--by means of bringing drafts into conformity with today's requirements of scientific technical progress both in terms of construction projects that already are being accomplished and in terms of projects that are under development, the construction of which is projected to begin during the years of the 12th Five-Year Plan,

--on the basis of every possible shift in the center of gravity in the distribution policy of capital investments from new construction to modernizing and retooling operating enterprises in order to assimilate new achievements of technology and manufacturing methods in production with less costs and in shorter time frames, and

--by means of implementing measures for maximum restriction of the construction front up to scales that conform to actual conditions and resources of the economic system's development during a given stage and that provide for the construction of enterprises, buildings, and facilities in standardized time frames.

It is of paramount importance to bring the drafts of enterprises and projects already under construction, as well as those the construction of which is projected to begin during the years of the 12th Five-Year Plan, into conformity with today's requirements of scientific technical progress. As long ago as 1984, ministries and departments were given proper instructions by directive organs.

A number of important measures are being taken in accordance with the USSR Council of Ministers decree on "further improving planning matters and increasing the role of expert opinion and author's supervision in construction" that was approved in January, 1985 with the aim of improving the quality of planning, increasing the validity level of planning decisions, and reinforcing the role and responsibility of planning and project investigating organizations.

The essence of this work consists of substantially improving the technical and economic indicators of enterprises and facilities under construction, as well as excluding from drafts and estimates any kind of excess and projects--the construction of which isn't caused by paramount necessity and which can be deferred for later time frames--by means of reviewing industrial, construction, and planning decisons that are reached in drafts. Putting these measures into practice must provide for a substantial reduction in the estimated cost of construction. However, as a whole, a review of planning estimates in the indicated trend is lagging greatly behind the established time frames, and in a number of cases it's in a formal manner.

It was established through an audit conducted by USSR Stroybank [Bank for Financing Capital Investments] that during the 12th Five-Year Plan at Minstankoprom [Ministry of the Machine Tool and Tool Building Industry] it is projected to construct 18 plants--and 10 at Minelektrotekhprom [Ministry of the Electrical Equipment Industry]--in accordance with drafts that were developed as far back as the 9th and 10th Five-Year Plans. When these drafts were examined, it was revealed that in a number of cases the decisions that are provided for in them in terms of production technology and organization, specialization, and joining into cooperatives have clearly become obsolete, and measures for efficiently using industrial heat and waste and protecting the environment are generally absent. At the same time, a revision of these drafts isn't provided for in the operational plans of planning organizations.

By the beginning of the second half of 1985, only a third of the drafts of carry-over construction projects in terms of audited ministries and departments had been reviewed.

This work was performed most poorly in Minnefteprom [Ministry of the Petroleum Industry], Minstroydormash [Ministry of Construction, Road and Municipal Machine Building], Minstroymaterialov SSSR [USSR Ministry of the Construction Materials Industry], Minpishcheprom SSSR [USSR Ministry of the Food Industry], Minrybkhoz SSSR [USSR Ministry of the Fish Industry], Glavmikrobioprom [Main Administration of the Microbiological Industry], Minselkhoz SSSR [USSR Ministry of Agriculture], Minzag SSSR [USSR Ministry of Procurement], and some other USSR ministries and departments and union republics where the estimated cost of construction as a result of reviewing drafts was reduced by less than 1 percent. Generally they didn't find it possible to reduce the estimated cost of construction in Minugleprom SSSR [USSR Ministry of the Coal Industry], Minradioprom [Ministry of the Radio Industry], Georgia, Moldavia and Estonia.

Frequently a draft review not only doesn't lead to a reduction in construction cost, but, on the contrary, reveals the necessity for considerably increasing it. Thus, a draft was reviewed by Minchermet SSSR [USSR Ministry of Ferrous Metallurgy] for the construction of a general-purpose "800" mill and a thermal etching department at the Orsk-Khalilovo metallurgical combine with an increase in estimated cost of more than double. This occurred as the result of a repeated review of technical decisions and errors in determining the cost of equipment and its weight, which led to an increase in the weight and cost of construction.

At the same time, the practice of a number of ministries where they approached the accomplishment of this work in a more responsible and serious manner shows that there is a considerable amount of possibilities to reduce the cost of construction. Thus, for example, Minneftekhimprom SSSR [USSR Ministry of the Petroleum Refining and Petrochemical Industry] provided for a reduction of 15.3 percent in the estimated cost of construction projects that are carried over to the 12th Five-Year Plan, Minkhimmash [Ministry of Chemical and Petroleum Machine Building] of 9.7, Minpribor [Ministry of Instrument Making, Automation Equipment, and Control Systems] of 4.4, Minlegpishchemash [Ministry of Machine Building for Light and Food Industry and Household Appliances] of 6.5, Minsvyazi SSSR [USSR Ministry of Communications] of 10.1 percent, and so forth.

A correct determination of estimated cost of newly begun construction projects and the achievement of higher technical and economic indicators, and first and foremost proportionate capital investments, in drafts will be of no less great importance in comparison with similar drafts that were accomplished or developed during the 11th Five-Year Plan.

A review, which is being conducted under the guidance of USSR Gosstroy and GKNT [State Committee for Science and Technology], of the current norms of construction and industrial planning with the aim of eliminating requirements from them that cause an increased expenditure of material and other resources, an overstatement of the volumes and areas of buildings and facilities, and an increase in the length of construction will be of the greatest importance in the matter

of putting estimates in order and finding reserves for the reduction of estimated construction cost. It's necessary that this work be completed in the shortest time frames in order to use its results in practice during the development of drafts for construction projects in the 12th Five-Year Plan.

In the 11th Five-Year Plan, the absolute volumes and proportion of capital investments directed towards these objectives increased substantially under the conditions of a decisive change to increase production capacities in industry, and first and foremost by virtue of retooling and modernizing operating enterprises on the basis of advanced production technology. During the years of the 11th Five-Year Plan, capital investments for these progressive trends in the reproduction of fixed capital will total nearly 130 billion rubles and they will increase by a factor of 1.4 as compared to the previous five-year plan, and that's approximately twice the growth rate of capital investments in industrial construction as a whole.

In 1985 the proportion of capital investments that are being directed towards retooling and modernizing will total 38.5 percent as opposed to 29 percent in 1980, and 50-60 percent in terms of individual sectors of industry and machine building.

Through the decree of 29 April 1984 the CPSU Central Committee and the USSR Council of Ministers set the task of modernizing and retooling operating enterprises on the basis of policy in the area of increasing production capacities within the next few years and for the long term. A trend like this in investment policy was completely confirmed at the April, 1985 CPSU Central Committee Plenum and then at a conference in the CPSU Central Committee on matters of accelerating scientific technical progress.

Hence, by virtue of retooling and modernizing it's projected in the 12th Five-Year Plan to increase capital investments by a factor of almost 1.5 as compared to the 1981-1985 period for the improvement and replacement of operating fixed production capital. The efficient and effective use of these enormous assets requires a reinforcement of centralized planning guidance for the process of reproducing fixed capital, which is important for the national economy, in combination with the independence and economic incentive of production associations (enterprises).

This is an imperative need because serious shortcomings occasionally are being concealed behind over-all relatively satisfactory data. In many ministries work was delayed on the development of long-range plans for retooling production and consolidated plans for retooling and modernizing in terms of industries. Their absence leads to the fact that, instead of a comprehensive approach to retooling matters in accordance with the requirements of technical progress, in many cases current and ineffective measures--which frequently amount to simply replacing equipment or performing separate secondary operations that don't have a substantial influence on an increase in volume, quality, and an improvement in the product assortment--are being planned and accomplished.

Capital investments that are provided for in Gosplan for 1985 to retool and modernize operating enterprises were used at a higher level in terms of the

national economy than in terms of the entire volume of capital investments as a whole. At the same time, substantial volumes of capital investments for these purposes proved to be unfulfilled in terms of a number of ministries--and first and foremost Mingazprom [Ministry of the Gas Industry], Minchermet SSSR, Minkhimmash, Minselkhozmash [Ministry of Tractor and Agricultural Machine Building], Minzhivmash [Ministry of Machine Building for Animal Husbandry and Fodder Production], and Minselkhoz SSSR--and individual union republics. Quotas established in the plan to increase capacities by virtue of retooling and modernizing are comparatively small, and in terms of the many kinds of products they comprise a relatively small portion of the total capacities put in operation. However, these quotas too aren't being completely fulfilled. This applies to primary oil refining; coal mining; steel smelting; the production of rolled ferrous metal, man-made fibers, chemical equipment, forging and pressing machinery, tractors, pulp, paper, granulated sugar, and meat; and some other important kinds of products.

In many respects, the problem of retooling production depends on associations' and enterprises' putting matters in order for the generation and use of assets in the production development fund.

During the course of preparing to conduct a broad-based economic experiment on the basis of studying the practice of using assets in the production development fund and summarizing the suggestions and desires of ministries and departments, as well as many managers of associations and enterprises, it was recognized as advisable to provide for outlays for technical improvement of fixed capital by means of retooling it by virtue of assets in the production development fund consisting of state capital investments and to consider them separately in the plan as noncentralized capital investments that are being provided in priority order through necessary limits and resources.

Right now conditions are being created that consolidate in the plan the interests of enterprises and promote an increase in the independence and responsibility of production associations and enterprises for technical improvement of production. At the same time, already during the course of accomplishing the experiment it was revealed that in some matters the rights granted to enterprises in the portion that pertains to the production development fund still can't be used by them in full measure.

In particular, there are difficulties with obtaining highly productive equipment in the quantities that are determined by retooling plans, as well as by progressive manufacturing methods. The assistance of industrial planning and design organizations is insufficient in the development of plans and planning estimates for retooling.

Matters require a solution for more extensive involvement in performing operations for retooling contract construction and installation organizations and strengthening the material and technical base and personnel support of organizations that conduct operations through the method of using their own resources.

With regard to the indicated ones and some other circumstances that retard the independence of associations and enterprises in using assets of the production

development fund for purposes of retooling, decisions were reached that are directed towards the creation of conditions for more complete use by associations and enterprises of the rights that are granted to them in the implementation of measures for retooling current production.

In particular, it was established that production associations and enterprises can independently dispose of assets in the production development fund. Retooling plans, planning estimates, and title lists of new construction projects for measures that are being implemented by virtue of these assets can be approved by the managers of associations and enterprises irrespective of the total estimated cost of the measures.

The proposals of associations and enterprises on volumes of capital investments and construction and installation operations (on necessary occasions and in contract operations) must be fully considered by ministries as noncentralized ones and be presented to USSR Gosplan to be part of the indicators for the draft of the capital construction plan. Assets in the production development fund that are being accumulated by enterprises aren't subject to withdrawal or use for other purposes. When there is a shortfall in these assets or the possibility is revealed of implementing highly effective measures for retooling production over and above the plan, the banks grant long-term credits to enterprises.

At the same time, this means monitoring the advisability and effectiveness of using assets of the indicated funds. When there is a total estimated cost of operations specified by a plan for retooling an enterprise over 4 million rubles for sectors of heavy industry and 2.5 million rubles for all remaining industries, ministries must examine these plans and assess their quality, effectiveness, timeliness, and possibility for implementation in the specified time frames, but the main thing is their conformity to the over-all trend of the industry's development. The necessary decisions must be reached in accordance with the results of an examination like this.

In turn, it's incumbent upon ministries to present to USSR Gosplan the indicators of consolidated retooling plans of operating enterprises, including measures that are specified to be accomplished by virtue of assets in the production development fund in order to correctly assess the effectiveness of capital investments and their results with regard to both increasing capacities and production output and improving other technical and economic indicators of the work of an industry's enterprises. Such indicators must be considered in appropriate sections of the national economic plan.

Rules for the opening of financing are being simplified substantially. Instead of a large volume of documents, it will be sufficient to present to the financing bank an excerpt from the retooling plan and approved estimates for individual kinds of operations and expenditures, and, when obtaining credit, to present calculations on the effectiveness of measures that are being specified.

Putting the material and technical supply of retooling measures in order is provided for. Beginning in 1987, the support of enterprises' requirements for equipment and other material and technical resources will begin to be accomplished directly through the territorial organs of USSR Gossnab in accordance

with planning estimates. Resources will be allocated on the basis of a requirement that is determined through drafts and, when there is retooling of enterprises, through the efforts of contract construction organizations that are obliged to include these operations in priority order in contract operating plans.

When generating a draft of five-year and annual plans for capital construction, it's necessary that complete realization be found for new approaches to planning capital investments and strict observance of the rights granted to enterprises in the area of using them in combination with high responsibility for final production and technical and economic results from capital that is being invested for improving and retooling production.

A sharp reduction in its time frames is an important trend that determines the successful assimilation into the national economy of the achievements of science and technology through the implementation of a captital construction program.

The assimilation and constant improvement of the procedure of capital construction planning and the persistent implementation of a policy for limiting new construction and concentrating capital investments on projects under construction and on the most important construction projects have a positive effect on the final results--in the acceleration of putting fixed capital into operation and in overcoming the trend of an increase in unfinished construction. The number of newly begun industrial purpose construction projects and the construction front are being reduced. During the 11th Five-Year Plan, the number of construction projects like these was reduced by a factor of approximately 1.5 in comparison with the 10th Five-Year Plan.

According to data for 1984, the ratio of the volume of unfinished construction to the volume of capital investments was 75 percent, with an accepted standard of 73, as opposed to 83 percent in 1981. In the plan for 1985, a further reduction is provided for in above-norm unfinished construction.

At the same time, we're faced also with further systematically restricting the construction front in order to complete the construction of enterprises and projects strictly in accordance with the established norms of the length of construction. Suffice it to say that with the annual volumes of capital investments that are being planned, if one doesn't take serious measures for more precisely defining the volumes of operations that remain for implementation and reducing the estimated cost of construction projects that are included in the plan, no less than 5 to 6 years will be required in order to fully complete the projects of drafts that were begun earlier in full capacity. Therefore, during the preparation of a draft and a plan for the 12th Five-Year Plan, a most thorough examination of the "portfolio" of new construction projects is being conducted in order to include in the plan only those enterprises and factories that either must provide additional capacities when it's impossible to obtain suitable output from current capacities or for organizing the output of basically new kinds of products. Right now during the process of compiling and approving the capital construction plan for the 1986-1990 period, decisive measures must be taken at associations, enterprises, ministries, departments, and planning organs to eliminate shortcomings that exist in this matter, and

that will help to efficiently resolve the problem of increasing effectiveness in the use of enormous capital that is being invested by the state in development of the economic system.

In many respects, an improvement in the state of affairs in capital construction depends on the contractor. During recent years of the current five-year plan, some positive changes were achieved in the work of contract construction and installation organizations, however, little was done in terms of the most important fundamental trends for improving contract construction.

In the draft of basic trends in USSR economic and social development during the 1986-1990 period and until the year 2000, the necessity was indicated to continue a policy for strengthening construction and installation organizations and reducing excessive management links. This makes it incumbent upon ministries and departments to implement a combination of measures for improving the management of contract construction at all levels--from a lower link to a higher echelon--and at the same time in a territorial cross section. It's necessary to prepare a construction management diagram for clearly organizing this work. An analysis of the drafts of general construction management diagrams that were developed by construction ministries, Minenergo SSSR [USSR Ministry of Power and Electrification], and Minvodkhoz SSSR [USSR Ministry of Land Reclamation and Water Resources], as well as proposals recommended by industrial ministries for department diagrams and the materials of territorial diagrams that were received from a number of union republics, shows that the requirements stipulated in the CPSU Central Committee and USSR Council of Ministers decree on "improving the planning of organization and management of capital construction," as well as in appropriate systematic directives, practically haven't been fulfilled.

Unsatsifactory study of these matters in drafts of general management diagrams of Mintyazhstroy SSSR [USSR Ministry of Construction of Heavy Industry Enterprises], Minpromstroy SSSR [USSR Ministry of Industrial Construction], Minstroy SSSR [USSR Ministry of Construction], and in appropriate materials of territorial diagrams is causing particular concern. Up to the present time, there are no approved territorial diagrams for the RSFSR and the Ukraine.

Essentially, construction ministries propose to maintain the current organizational structure of management in all links of their system and in a territorial cross section.

Thus, reinforcement of the role of the trust and its conversion into a powerful, independent, and organizationally detached system that is capable of providing--through its own efforts and with the involvement of appropriate specialized organizations--for the construction of production capacities and projects in standardized time frames are stipulated as an important trend in improving management at the basic link level for the management of construction production. For this it's necessary to consolidate trusts and their subunits [podrazdeleniye], develop and intensify specialization, efficiently join organizations into cooperatives, and combine production on the basis of the condition to increase the industrialization level of construction. The annual volume of contract operations that are being performed on the average by a single construction and installation trust increased by a total of 1.5 percent in 1980

when compared to 1975. During the current five-year plan, the volumes of operations calculated per single trust and that are actually being performed have even decreased somewhat. Since 1975, the average capacity of construction administration practically hasn't changed. However, Mintyazhstroy SSSR, Minstroy SSSR, and Minpromstroy SSSR are specifying in drafts of general diagrams the retention in their structure of nearly 8 percent of the trusts with an annual program of construction and installation operations, which are being performed through their own efforts, of less than 6 million rubles and half of the trusts with a program up to 18 million rubles.

As is generally known, in the USSR Council of Ministers and VTsSPS [All-Union Central Council of Trade Unions] decree that was approved in January, 1985 on "improving the organization and wage and bonus system of labor in construction" new indicators were established for including construction and installation organizations among the wage groups of leading workers and engineering and technical personnel. The minimum capacity of a trust was determined at 15 million rubles in accordance with the total volume of construction and installation operations that are being performed, and trusts of the first group must perform construction and installation operations at a volume of more than 40 million rubles.

Accordingly, many trusts that are functioning at the present time must be combined or reorganized into primary subunits.

Construction ministries and local organs aren't taking necessary measures to increase the capacities of construction and installation organizations and to consolidate production, and they continue to make suggestions for permission to make an exception for them, referring to so-called specific industrial or territorial peculiarities. Convincing arguments and technical and economic calculations are absent in this regard. At the same time, an analysis of indicators for production, economic, and financial operations of small trusts (and right now half of them at construction ministries are like these, and even more at industrial ministries) shows that without consolidating them it's impossible to provide the necessary development rates and effectiveness of construction production.

It was stipulated to implement an efficient change in departmental subordination with the aim of eliminating duplication in the operations of contract organizations that are under the jurisdiction of different ministries and departments on the territory of a kray, oblast, and rayon. This meant that mainly specialized contract subunits and organizations, which modernize and retool operating enterprises or accomplish capital repair, must remain a part of industrial ministries and departments. At the present time, many contract organizations of industrial ministries and departments are performing sizable volumes of operations for new construction. With one small exception--and to which it's important to attribute the proposals of party and soviet organs of Georgian SSR, Sverdlovsk Oblast, Krasnodar Kray, and others--there is a striving to retain the contract organizations of industrial ministries in their previous subordination.

As work indicates in the preparation of construction management diagrams, it's necessary to reach fundamental decisions that are directed towards reinforcing

centralization in construction management for basic sectors of industry and the national economy. Simultaneously, it's necessary to expand the rights of union republics and local organs in the management of nonindustrial construction. An analysis of the status and development characteristics of contract construction in different union republics, krays, and oblasts shows that it's inadvisable to recommend a single diagram for all territories and construction industries.

It's impossible to reach sound decisions on the consolidation of construction and installation organizations and the efficient organizational structure of management, including matters of departmental or territorial subordination, without taking into consideration the characteristics of developing specialization, joining into cooperatives, and forming a combine in construction production.

Unfortunately, the increase in the level of specialization, which reached 63 percent in 1980, has slowed down during the current five-year plan. However, objective conditions dictate an imperative need for developing specialization and properly joining into cooperatives in the construction of projects for the ferrous metal, nonferrous metal, chemical, petrochemical, and a number of other industries. This requires reviewing the distribution of functions among general contract construction ministries and Minmontazhspetsstroy SSSR [USSR Ministry of Installation and Special Construction Work], as well as reinforcing the participation (in accordance with the appropriate production structure) of the specialized organizations of Mintransstroy SSSR [USSR Ministry of Transport Construction], Minneftegazstroy SSSR [USSR Ministry of Construction of Petroleum and Gas Industry Enterprises], and Minenergo SSSR [USSR Ministry of Power and Electrification] in comprehensive industrial construction. The bureaucratic position that is being manifested sometimes on the part of specialized ministries hinders development of the most effective forms for management of construction production.

Improvement of management in construction, as in other industries of the national economy too, must be conducted in a dynamic and consistent manner. It was stipulated by the draft of basic trends to expand the independence of construction and installation trusts and to raise their responsibility for putting capacities and projects into operation in a timely manner and improving the results of economic operations. Beginning in 1985, and with the aim of working out further trends of this work, the execution of an experiment was specified at Glavsreduralstroy [Main Administration for the Construction of Enterprises in the Central Ural Regions] of Mintyazhstroy SSSR, Glavsrednevolzhstroy [Main Administration for the Construction of Enterprises in the Middle Volga Regions] of Minpromstroy SSSR, Glavzapstroy [Main Administration for the Construction of Enterprises in the Western Regions] of Minstroy SSSR, Minpromstroy BSSR [BSSR Ministry of Industrial Construction], and Minselstroy BSSR [BSSR Ministry of Agricultural Construction] for the construction of a number of production projects, dwelling houses, and projects for social and domestic use in accordance with drafts and estimates that are coordinated between the client and the contractor with the delivery of "turnkey" projects that are prepared for outputting products or rendering services. In this regard, the independence of participants in the investment process will be expanded and their responsibility increased.

A reduction in the number of directive plan indicators of construction organizations participating in the experiment and more extensive use of the system of accepted economic standards were stipulated by the approved statute concerning implementation of the indicated experiment. During generation of the five-year plan, a production capacity reserve of construction organizations is retained in an amount up to 10 percent for providing stability of the five-year plan and calculating possible deviations from the specified quotas in the course of fulfilling the five-year plan. When developing an annual plan, differences in terms of volumes of contract operations and time frames for putting production capacities into operation are examined by central organs of industrial management and at USSR Gosplan only in accordance with the most important construction projects. In terms of all other construction jobs and projects, annual plans of contract operations are generated by participants in the experiment with appropriate clients in an independent manner and with the observation of standardized time frames for the length of construction.

Development of the construction portion of operating documents is accomplished by participants in the experiment through the efforts of subdepartmental planning organizations or, according to their orders, by the planning organizations of other departments.

Savings that are being obtained as a result of reducing cost as opposed to the agreed upon price during the manufacturing planning stage are at the disposal of construction and installation organizations after a deduction of 25 percent for the state budget and they are directed towards economic motivation of the contractor, planners, and clients.

At main administrations and ministries participating in the experiment, certain organizational work was performed to prepare and conduct it. Lists of projects, the construction and delivery to clients of which will be accomplished in 1986 under "turnkey" conditions, were approved.

However, it's important to note that for the time being this experiment is of a local nature and it doesn't encompass all the questions of improving capital construction and increasing its effectiveness. It practically doesn't affect clients, suppliers of equipment, and supply organizations.

Decrees that were approved in April, 1984 and January, 1985 for improving the economic mechanism in capital construction contain a combination of measures that are directed towards improving the work of contract organizations. They're aimed at increasing the growth rates and effectiveness of construction production and eliminating negative tendencies in contract construction.

During the last two five-year plans, growth rates of the volumes of contract operations being performed became considerably lower than for the preceding decade. Thus, the total volume of contract operations in 1970 in comparison with 1965 grew by 48.9 percent, in 1975 in comparison with 1970 by 42.2 percent, and in 1980 in comparison with 1975 by 10.4 percent. The volume of contract operations performed in 1984 exceeded those performed during 1980 by 11 percent.

Before the 10th Five-Year Plan, the increase in the volumes of contract operations was provided in large measure by virtue of extensive factors. Thus, the average annual numbers of workers engaged in construction and installation operations in 1970 in comparison with 1965 increased by 23 percent and in 1975 in comparison with 1970 by 13.4 percent. During a subsequent period (more precisely, since the end of the 10th Five-Year Plan), the increase in the numbers of labor resources in construction has decreased sharply. The numbers of workers engaged in construction and installation operations in 1980 as compared to 1975 grew by a total of 3.1 percent, and in 1984 in comparison with 1980 by 0.3 percent.

The limitation of quantitative factors for an increase in construction production required a reinforcement of intensification. However, they didn't succeed in achieving the necessary results in this direction in a large portion of the construction and installation organizations.

During the 1966-1970 period, labor productivity in construction grew by 22 percent, by 29 percent during the 1971-1975 period, and by 11 percent during the 1976-1980 period. During the current five-year plan, the growth rates of labor productivity in construction have increased slightly. During 4 years, labor productivity grew by 11 percent; in this regard, if its average annual growth rate was 2.3 percent during the 1981-1982 period, then it was 3.1 percent during the 1983-1984 period. At the same time, one cannot recognize the attained level and growth rates of labor productivity as sufficient for performing the planned volumes of contract operations. Lower growth rates of labor productivity during the 1976-1984 period in comparison with those achieved in the 1966-1975 period must become the subject of objective analysis.

Industrialization of construction on the basis of extensive assimilation of precast reinforced concrete structures was one of the basic trends for improving labor productivity during the 1966-1975 period. Industrial potential in the output of precast reinforced concrete structures and products, the production of which more than doubled during the indicated period, was increased by the high rates. At the present time, the task consists of retooling this kind of production. It's necessary to raise the level of industrialization of precast reinforced concrete structures and the degree of their plant readiness, sharply improve quality, increase durability and reduce weight, and increase the output of new advanced structures at outstripping rates.

It's also necessary to eliminate a disproportion in the production of other kinds of industrial structures: light metal, steel and wooden structures. The prefabricability level during the installation of industrial, power generating, and engineering equipment is totally inadequate.

The saturation of contract organizations with traditional construction technology increases the level of labor's capital-labor ratio, but it doesn't always provide a subsequent reduction in manual labor costs and an increase in labor productivity in mechanized operations. During recent years, the use of technology hasn't improved and the shift system and number of hours of useful work have even decreased for a number of kinds of machinery.

A change of policy is necessary in equipping contract organizations with construction technology. Acceleration of the process of reducing manual labor costs requires an increase in the production and deliveries to construction workers of highly mobile machinery with replaceable operating units, technology for the mechanization of large volumes of operations, auxiliary processes and operations, small-scale mechanization, and electric power tools.

A reduction in labor costs in operations that are mechanized already is connected with the necessity of replacing the motor vehicle fleet and assimilating high-power, highly productive technology.

In the draft of basic trends, the necessity was emphasized to further industrialize construction production by means of successively converting it into a single industrial and construction process of project construction and accelerating the creation and assimilation of advanced technology and machinery and equipment systems that provide for full mechanization of construction and installation operations and an expansion in the use of effective kinds of materials, designs, and components.

Specific tasks have been set before construction and other ministries to expand the scope of factory production and deliveries to construction projects of complete sets of completely prefabricated multipurpose buildings and facilities, bulk components, and modular units for engineering and industrial equipment. An extensive program is specified for retooling the construction design and components industry, as well as the building materials industry.

During the 12th Five-Year Plan, the assimilation of advanced mechanized equipment, the basic producer of which is Minstroydormash, must lead to a reduction of 20-25 percent of the workers who are engaged in manual labor.

The reserves of construction and installation organizations with regard to an increase in labor productivity are considerable. Losses of working time (because of unauthorized absences from work, and downtimes and absences with the permission of management) account for almost 2 days per year on the average per individual worker in construction. Intrashift losses of working time remain great. According to photographic data of the work day, they exceed 8 percent of the shift time at organizations of the basic construction ministries. There are many shortcomings in developing the brigade contract and extending advanced experience in the organization of labor and production. It's necessary to strengthen production and industrial discipline in all sections of capital construction.

It's required to make even more efforts for a successful solution of the tasks that have been set in radically improving capital construction. All participants in the construction process must make their own appropriate contribution to the common cause of putting our economic system on the tracks of intensive development.

9889
CSO: 1821/103

UDC 69.001.8:669

DELAYS AT CONSTRUCTION OF LIPETSK STEEL PLANT EXAMINED

Moscow PROMYSHLENNOYE STROILTELSTVO in Russian No 1, Jan 86 pp 7-8

[Article by M.A. Ordelli of USSR Gosstroy's Research Institute for the Organization of Construction Management: "In the Construction of Lipetskaya Magnitka"]

[Excerpts] In Lipetsk, under an order by the Novolipetskiy Metallurgical Combine imeni Yu.V. Andropov, Glavlipetskstroy of the USSR Ministry of Construction of Heavy Industry is carrying out the model construction of the complex of the shop for the cold rolling of electric generator steel. This construction was declared model relatively recently, on 8 April 1985, by order No 137 of Glavlipetskstroy. As the order states, the construction is being carried out on the basis of advanced domestic and foreign experience.

At the present time, the construction is being carried out on a rather broad front and the installation of imported equipment has begun. Only 6 months remain until the complex is to be put into operation, however, and there is a great deal of work to be done in the construction of the buildings and installation of the equipment, not to mention the painstaking start-up work and the testing of installed equipment prior to start-up. There are, of course, also shortcomings in the organization of construction that, if not rectified, can seriously delay the putting of the complex into operation within the established period.

When we learned about the construction project in September 1985, there was a shortage of cement, which literally paralyzed the course of the work. They explained to us that the reason was the overfulfillment of the plant for the work in the first half of 1985. Is that right? For the plan for the first half year was overfulfilled by only 9 percent and that not everywhere. And cement was not used in all types of work during the first half year. It seems that that they should have helped out such a crucial and model construction project with cement under any circumstances.

The situation with small-scale mechanization is also unsatisfactory. This is the scene we encountered in the main block: a brigade of workers is pouring a concrete foundation for equipment. In so doing, the tub with concrete was set up vertically and the concrete will not come out of its opening. By using a sledge hammer and shovels, they just barely managed to scrape the concrete out

of the tub (the builders did not have vibration gear to speed up the removal of the concrete from the tub). The workers then used shovels to move the concrete to the place where it was to be poured and also tamped it in with the shovels (the vibrator burned up). Because they did not have a rack vibrator they used shovels to smooth the surface of the future foundation. In the process of making the joint of the columns monolithic with the foundation, they use one-time makeshift wedges instead of inventory wedges. After the concrete of the monolithic joint attained the necessary strength, they cut out the metallic wedges. In so doing, 40 percent of the mass of the metal remains in the joints forever and 60 percent becomes scrap (there are eight rather massive wedges in each joint). It is obvious that it would be more expedient to acquire or manufacture inventory wedges with canvas sleeves that can be removed with a special device after the concrete hardens and thus utilized repeatedly. The method used by the builders is unacceptable, especially now that a national campaign is under way for the careful and economical utilization of scarce metal.

We presented just two examples. There are many such examples in construction and this is intolerable. It is necessary to supply all builders fully with the means of small-scale mechanization, standard kits and essential gear.

The lagging behind of work at projects having to do with chemistry is also cause for a certain amount of concern. The shop cannot be put into operation without it and the lag here relative to the line schedule amounted to 60 days in mid-September. Also of concern is the course of the work in the construction of reinforced concrete floors by means of the vacuum-evaporation method in the main block. This can hold up the installation of imported equipment. They have 70,000 square meters of such floors to do.

9746
CSO: 1821/122

BRIEFS

EQUIPMENT STORAGE VIOLATIONS--A check made by the Yaroslavl Oblast office of the USSR Stroybank has determined that there are serious violations of the conditions for the storage of equipment at the Tutayev Motor Plant of the Ministry of the Automotive Industry. A lot of equipment comes here and they store it in two open unfenced yards and sometimes directly along the roadbed of the railroad. The person assigned to guard it cannot secure it. Domestic and imported equipment worth 2 million rubles lies in broken packaging or in none at all. Costly imported electrotechnical output is open to the elements. There have already been 50 recorded cases of the breaking up of sets of equipment with a total value of 1.135,000 rubles, including imported equipment worth 450,000 rubles. They have been storing a portal crane worth 199,000 rubles in the yard since 1973 in violation of the rules. In 12 years, they have found no use for it. It became completely useless and is awaiting write-off for scrap or spare parts.... [By G. Alimov] [Excerpt] [Moscow IZVESTIYA in Russian 5 Feb 86 p 2] 9746

CSO: 1821/122

HOUSING CONSTRUCTION

RESIDENTIAL HOUSING SECTOR IN BELORUSSIA SHOWS GAINS

Moscow STROITELNAYA GAZETA in Russian 4 Dec 85 p 1

[Article by S. Bril, BSSR Minister of Industrial Construction: "For a Unified Series"; first 2 paragraphs are STROITELNAYA GAZETA introduction]

[Excerpts] STROITELNAYA GAZETA has already described the successes of housebuilders in Georgia, Lithuania and the Ukraine who fulfilled their five-year plans for putting housing into operation ahead of schedule. Belorussian SSR construction and installation organizations, which also recently completed their 11th Five-Year Plan Targets, have also achieved an excellent measure of success. The republic planned to commission 20,234,000 square meters of general housing space based on all sources of financing in 5 years. This target was surpassed by 41,000 square meters in 4 years 9 months. During the same period, schools with 178,500 pupil places instead of 161,000, polyclinics capable of receiving 28,870 visits a shift instead of 28,360, and many other facilities were built.

During the five-year plan, the technical level of construction has risen considerably and the quality of work has improved. Average housing construction time has been cut by 1 month.

Today we have attained the practically full utilization of existing large-panel housebuilding [KPD] capacities. The further intensification of production is only possible on the basis of technical retooling.

Under the 12th Five-Year Plan, all large-panel housebuilding will be converted to a single basic series. It will be based on the Belorussian variant of the "M-90" series. BSSR Gosstroy [State Committee for Construction Affairs] has recommended that it be introduced at all KPD plants under construction and reconstruction. This process is already near completion in Grodno and Brest. Preparations for the assimilation of the process are under way in Novopolotsk, Borisov, Mozyr, and Soligorsk.

The conversion of our KPD plants to the production of the unified series opens up major prospects. This makes it possible to use computers in site preparation and in supplying construction projects and will ultimately reduce labor-intensiveness, reduce construction time and cut estimated costs.

An automated line for the manufacture of internal and external wall panels has been prepared for operation at plant KPD-3 of an industrial housebuilding association.

Figures and Facts

During the 11th Five-Year Plan, Belorussian builders received more than 3000 units of various means of mechanization. This was 1.9 times more than during the preceding 5 years.

Labor productivity in republic construction as a whole increased from 1.4 percent in 1980 to 4.0 in 1985.

The average Belorussian has more than 15.5 square meters of general living space.

The republic's urban housing fund numbers 77.9 million square meters of general living space.

In 1984, the 10 millionth square meter of actual living space was put into operation in Minsk; the 2 millionth--in Vitebsk.

5013
CSO: 1821/108

HOUSING CONSTRUCTION

LACK OF CREDIT FOR CO-OP HOUSING CONSTRUCTION IN ARMENIA

Yerevan KOMMUNIST in Russian 25 Dec 85 p 2

[Article by A. Dadayan, manager and chairman of the board of Armkontora of the USSR Stroybank: "What the Cooperative Owes": Intervention Demanded"]

[Excerpts] Huge sums of state funds go into housing construction every year. Cooperative housing construction is being increased for the purpose of providing for a more nearly complete satisfaction of the need for housing. In the period from 1963 through 1984 alone, a total area of 113,252,000 square meters of cooperative housing was put into use in the country, for which the USSR Stroybank provided credit amounting to 8.772 billion rubles.

In our republic in the period from 1983 through 1984, a total area of 1.5 million sqare meters of cooperative housing construction was put into use, for the construction of which 110 million rubles in credits were granted. More than 26,000 families received well-organized apartments, including 25,000 families in Yerevan.

Whereas prior to the 11th Five-Year Plan cooperative housing was built in only a few cities of the republic, construction occurred in 17 cities and settlements in the 11th Five-Year Plan, in connection with which the limit of capital investments for this construction was increased by about 50 percent.

The need for cooperative housing construction is increasing, however. At the beginning of 1981, there were 5,000 unsatisfied applications of citizens for the construction of cooperative housing and there were three times as many at the beginning of 1985.

This increase is caused in part by shortcomings in the construction of these houses: Every year the plans for the construction of cooperative housing are not fulfilled. In the period from 1981 through 1985, the amount of cooperative dwellings put into use was 576,000 square meters below what was planned.

A number of ministries, departments and ispolkoms of local soviets of people's deputies continue to include in the plans for capital construction cooperatives that are unorganized and without planning estimates and they plan capital investments outside of the standards for the duration of construction.

There are cases of the putting into use of cooperative housing construction with poor-quality work and numerous flaws in workmanship. The municipal services provided to the cooperatives by the operational sections and the management of boiler houses and the centralized heating system are not at the proper level.

As of 1 September 1985, the financing had not been drawn up for 30 cooperatives, including 14 of the Yerevan City Council, 5 of the Ministry of Housing and Municipal Services, and 3 each by the Leninakan and Kirovakan city councils.

The further development of cooperative construction in the republic is being hindered by the late repayment of credit and by the presence of significant sums in overdue loans.

Enterprises and organizations, in violation of existing instructions, are not making use of their rights and are not using the economic incentive funds to provide free assistance to employees joining cooperatives.

Overdue loans amount to an average of 700,000 to 800,000 rubles, 90 to 95 percent of which are for Yerevan.

By way of comparison, it is essential to note that the cooperatives of many union republics do not have overdue loans and that in the RSFSR, Belorussia and the Ukraine, where there are 10 to 50 times more building cooperatives than in Armenia, overdue loans amount to only 50,000 to 80,000 rubles.

The reasons for this situation are simple: most of the cooperative members and managing boards of the cooperatives are not fulfilling the requirements of the cooperative by-laws in regard to the repayment of credit and the ispolkoms of the local soviets are not reviewing the work of the managing boards of the cooperatives and are not providing for the repayment of this indebtedness.

The USSR Stroybank and the Council of Ministers of the Armenian SSR have reviewed the status of the repayment of credits for financing and the course of the fulfillment of the construction plan. The Council of Ministers of the republic has obligated the appropriate ministries and ispolkoms of local soviets to take the necessary measures for the elimination of shortcomings and the repayment of credit.

The ministries and departments of the republic, the contract organizations carrying out the construction of cooperative housing, and the managing boards of cooperatives must take all necessary measures for the successful further development of cooperative housing construction in the republic and for the timely repayment of the loans issued.

9746
CSO: 1821/123

HOUSING CONSTRUCTION

OFFICIAL DISCUSSES PLANS FOR HOUSING CONSTRUCTION IN FAR EAST

Moscow STROITELNAYA GAZETA in Russian 27 Dec 85 p 3

[Unsigned article: "Commentary by V. Alferov, Deputy Minister of Construction in the Far East and Transbaikal"]

[Text] Our ministry has devised the comprehensive "Housebuilding" target program which is primarily designed to accelerate the rate of housing construction in the nation's eastern regions. It calls for the technical retooling of all active large-panel housebuilding [KPD] enterprises in the region, for their conversion to the production of parts for new, improved series of houses, for the introduction of progressive technological decisions, and for the growth of capacities.

Improved series of houses are coming off the housebuilding conveyor in almost all of the region's large cities. In the last 3 years, the ministry has successfully coped with intensive plans for the commissioning of housing. Since the beginning of the five-year plan, Far Easterners have received approximately eight million square meters of housing. Housebuilders have been most active in Primorye, on Kamchatka and in the Amur River Valley.

We are presently devoting more and more attention to the industrialization of the housebuilding process. As a result of reconstruction and technical re-equipment, the level of prefabrication of KPD parts increased by 40 percent during the five-year plan as a whole. Our present task is to see to it that all wall panels and slabs are entirely ready for final finishing when they leave the shop.

We are particularly concerned with the introduction of materials- and energy-saving technology and with pursuing a more vigorous economy program. More than two-thirds of the region's enterprises are already practicing the early removal of forms and using stiff-consistency concrete mixtures--a practice that was initiated in the Far East by Vladivostok housebuilders. Almost all plants that mass producing non-seismic series of houses now stamp inserts thereby reducing the expenditure of metal by almost 30 percent. We are also beginning to produce highly effective cassette-conveyor lines for the region's enterprises.

We will also be faced with the large-scale task of strengthening the housebuilding base under the new five-year plan. We are planning the installation of more than 1500 units of new production equipment and the fabrication and replacement of approximately 40,000 metal forms. The capacities of existing housebuilding enterprises in the Far East are to be doubled as a result of modernization and technical retooling. All DSKs will produce houses of the improved series that are modified in accordance with the new requirements regarding the material-intensiveness of parts and the expenditure of heat.

At the same time that we accelerate the housing conveyor, by the year 1990 we are planning to organize the production of parts for the construction of 350,000 square meters of fully assembled housing for small families, dormitories, and sociocultural and service facilities, which will make integrated urban development possible.

5013
CSO: 1821/108

SHODDY APARTMENT CONSTRUCTION LEADS TO FATALITIES

Baku VYSHKA in Russian 27 Dec 85 p 3

[Article by S. Gopanyuk, in Kirovabad: "In a Disastrous Condition"]

[Excerpts] Two five-story buildings, at 37 and 38 Michurin Street in Kirovabad, have been frightening both tenants and passersby for many years. Indeed, how can one not be alarmed if balconies fall off, if the roof leaks, if the pipes are unusable, and if the steam heating system has not worked for more than 10 years?

Two children fell from the broken-down balconies: one fell together with the broken-off part of the balcony to a third-floor balcony; the other fell to the ground.

After the tenants "pestered" the building manager and the civil railway structures division, comrades R. Babayev and K. Abdullayev declared: "We don't have the funds to make repairs."

In the opinion of officials of the civil railway structures division, the leaders of the Kirovabad division were guilty of the violation of failing to include the broken-down buildings in the repair plan. Housing management and civil railway structures division personnel should have reacted to the first signals from the tenants by compiling an act of inspection of the buildings, by estimating the cost of repairing them, and including them in the work plan.

Taking advantage of the lack of oversight, T. Tagiyev clearly violated the procedure for planning repairs and for a number of years ignored the alarm signals of tenants of buildings with broken-down balconies and a dearth of elemental amenities and carried matters to extremes. And he bears no responsibility whatsoever for this.

One would think that the attention of the Kirovabad division and the road administration will be called to this fact, that the buildings will be put in order, that oversight will be established over the integrity of the housing fund, and that the guilty will properly be called to account.

5013
CSO: 1821/108

HOUSING CONSTRUCTION

PROBLEMS AT RECONSTRUCTION SITES FOR REINFORCED PANEL PLANTS

Moscow STROITELNAYA GAZETA in Russian 25 Dec 85 p 1

[Editorial: "New Frontiers for House Builders"]

[Excerpt] New types of industrial construction will be further developed in the 12th Five-Year Plan: monolithic and module construction. But the main direction remains that of large-panel house building [KPD]. It will be necessary to make fuller use of its great potential and achieve a very rapid assimilation of the planned KPD capacities. A fundamental improvement of technology is an indispensable condition for the faster rotation of the country's large house-building conveyor.

In 1986 alone, 20.4 billion rubles are being allocated to the development of the construction industry. To use these colossal resources efficiently, it is important to determine the correct strategy and tactics for the renewal of production. As in other industrial sectors, priority is given to the reconstruction and technical reequipment of enterprises.

Many progressive technologies have already been introduced in many KPD plants: cassette-conveyor lines in Kalinin and Vladivostok, a rotary conveyor system at Komsomolsk-na-Amure, and the formation of concrete products using the pouring method at Koprov in Vladimir Oblast. Until recently, however, the experience of the best has not been generalized and practically no one has directed the process of the reconstruction of KPD plants. In addition, the new industrial lines developed by central institutes not only did not yield a significant gain in labor productivity but turned out to be undependable in operation.

Much blame in the current situation goes to the TSNIIEP [Central Research and Planning Institute for Standard and Experimental Planning] Housing, leading in the house building sector, which was repeatedly subjected to sharp criticism. It must be noted, however, that of late the collective has been doing a lot to turn things around. Together with Giprostrommash and NIIZhB, VNIIZhelezobeton has worked out a complex program for the technical reequipment of the sector. The scientific-technical council of Gosgrazhdanstroy recently examined and supported the new system proposed by the TSNIIEP Housing for the establishment of flexible production, which fundamentally changes the entire organization of

the planning and preparation of designs and opens up broad possibilities for architectural research.

Meanwhile, now even the most ordinary reconstruction providing for a very modest renovation of production is prolonged for many years. Thus, back in 1980, the USSR Ministry of Construction confirmed a project for the reconstruction of the Vladimir House Building Combine but until recently it was not disclosed how it would be financed. The project naturally became hopelessly obsolete. The capacities of the enterprises of the Ministry of Construction, Road and Municipal Machine Building do not at all meet the needs of the construction industry. The KPD plants essentially have no place to manufacture new equipment, molds and supplies. It is no accident that here the coefficient of funds turnover is one of the lowest in industry.

The new frontiers to be reached in the area of civil housing construction require new approaches and the purposeful joint efforts of all participants in the process of urban development. It is therefore essential to establish a specific program in this area, giving specific tasks to each ministry and each department involved in its implementation, including the machine builders. The realization of this complex program will help to speed up the resolution of one of the most important social problems--the housing problem--and will significantly raise the quality of the development of our cities.

9746
CSO: 1821/123

HOUSING CONSTRUCTION

INCENTIVES FOR HOUSING CONSTRUCTION, DESIGNS CRITICIZED

Moscow IZVESTIYA in Russian 18 Jan 86 p 2

[Article by N. Kordo, chief, Laboratory of Typology and Prospective Housing Problems of MNIITEP [Moscow Scientific Research and Project-Planning Institute of Model and Experimental Design]: "More Variants!"]

> [Excerpts] The draft of the new Program of the CPSU states: every Soviet family must have a separate apartment by the year 2000. According to the master plan for the development of Moscow, each family member must have a separate room in that apartment. The existing structure of construction today, however, creates unsolvable housing problems.

Architects and builders working in the sphere of housing construction must accomplish a great deal: reorganize the production of prefabricated housing on a scientific basis, introduce the latest advances in architectural thought into housing construction, and raise the social and esthetic significance of housing.

But the construction industry is not assimilating the new series, finding it easier to produce the old products instead. As the coordinating entity, it can demand corrections in the design and postpone its introduction. It does not hasten to produce new series for another reason. Since construction is planned on the basis of volume, according to the amount of overall area that is put into operation, it finds it more profitable to build not small, but large apartments that make it easier to fulfill the plan. This results in paradoxes: in 1983, 152,000 fewer apartments, but 1.6 million square meters more housing area were put into operation than in 1975. As a result of delays in the introduction of the new series, Moscow suffers an annual shortfall of 5000 apartments, which means that 13,000 persons will not be moving into new apartments.

The total resolution of the housing problem will require--in addition to new construction--the conversion of thousands of existing large two-room apartments into other types of apartments. This is necessary because buildings with the kind of apartments that are needed are not being built while the wrong kind of apartments are built in large numbers.

This situation can no longer be tolerated. Just as it is important to replace old equipment with new in industry, in dealing with the housing problem it is important to replace old designs with other designs that correspond to demographic, city planning, esthetic, and other scientific premises. It would seem that this is the first thing that we architects and builders must do.

The second thing is that the time has come to stop chasing after "volume." The interest of builders in building large apartments exclusively must give way to interest in moving people on the waiting list into new apartments as soon as possible, in work based on "requisitions," in the scientific structuring of the housing fund.

It is also obvious that the construction financing system must encourage frequent change in the products produced by the combines and must help adaptive technology to reveal its effectiveness entirely. There is obviously a need for price markups on new products and for higher coefficients of estimated costings of installation of newly assimilated types of housing. The action of these rules can be limited, for example, to 2 years.

Such, in my view, must be the action plan of architects, builders and urban officials for bringing a early solution to the housing problem. After all, the ultimate evaluation of our labor depends specifically on the rate and scientific correctness of the solution of this problem.

5013
CSO: 1821/108

RSFSR GOSSTROY OFFICIAL ON NORTHERN HOUSING CONSTRUCTION PLANS

Moscow IZVESTIYA in Russian 19 Jan 86 p 3

[Article by A. Blokhnin: "Cities on the Permafrost"; first paragraph is IZVESTIYA introduction]

[Excerpts] The complex scientific-technical prgram of urban development and civil housing construction in the northern regions of the country for the period through the year 2005 has been confirmed by the RSFSR Gosstroy and Gosgrazhdanstroy [State Committee for Civil Construction and Architecture]. The program manager, N. Sukhanov, first deputy director of the RSFSR Gosstroy, comments on its basic positions:

There is still no SNiP (northern construction standards and rules) that is obligatory for all builders. What is done here is either an adaptation or is planned according to provisional (and quite imperfect) standards. The establishment of a SNiP is one of the priority tasks of the program Sever-2005. We also need standards and project decisions that would permit the industrial construction of dwellings that conserve heat dependably.

The current standards foresee an increase in the total area of apartments for northerners and in the floor height of dwellings. But this still does not solve all of the problems in the construction of standard housing. It is essential to improve the architectural-design and functional qualities of northern housing and to develop a system of public services.

In the 12th Five-Year Plan, it is planned to introduce a total area of about 70 million square meters of housing and public buildings in the northern zone. At the same time, it is planned to do 60 percent of the total volume of construction under the new zonal standard projects. Some demographic features of the kray are also taken into account. There is a higher percentage of men here than in other regions. Families are predominantly small (two or three people) and there are many people who are still single.

What kind of houses is the north being built up with? Are there any interesting architectural innovations among them?

"Standard projects of housing blocks or sections of six large-panel series have been developed for the northern regions. But the search is continuing

for expressive architectural forms and design solutions that make possible the conservation of heat in the best way. Some interesting variants were selected for practical application from among those presented at the "Northern Dwelling" contest. The architects from Moscow, Leningrad, Yakutsk, Armenia and Moldavia who participated in it presented variants of composition, including round tower houses and houses of unprecedented width--up to 40 meters. The essence of these planning decisions is to put in the interior of the house that which needs little or no natural lighting: stairwells and elevators, entrances, household service areas and, to some extent, kitchens."

In speaking of the program "Sever-2005," I would like to stress that although it is regional (the entire north essentially belongs only to the RSFSR), its significance is doubtless national in scope. The north is being developed by practically all of the republics and thousands of organizations of dozens of ministries. The program will help them to make the optimum planning and technical decisions and it will coordinate the action of all partners.

9746
CSO: 1821/123

BRIEFS

NEW LARGE-PANEL HOUSEBUILDING PLANT--At the end of last year, a state commission accepted the first phase of a large-panel housebuilding plant for operation and assigned it a rating of "good." The new, semiautomatic enterprise, which was built with the help of various organizations belonging to Glavsreduralstroy [Main Administration for Construction in the Central Urals Region], has a rated production capacity of 258,000 square meters of components [izdeliya] a year. [By V. Pankratov] [Text] [Moscow STROITELNAYA GAZETA in Russian 5 Jan 86 p 1] 5013

PROJECTED HOUSING IMPROVEMENTS--The USSR is consistently resolving the housing problem. More than 550 million square meters of general living space were put into operation during the 11th Five-Year Plan thereby making it possible to improve the housing conditions of more than 50 million people. A most important social task is next on the agenda: the task of providing every family with a separate apartment or house. Accordingly, it is planned to put at least two billion square meters of general living space into operation before the year 2000, including 565-570 million square meters during the 12th Five-Year Plan. [Text] [Moscow STROITELNAYA GAZETA 27 Nov 85 p 2] 5013

PLANT CONSTRUCTION ACCELERATED--"Housing Construction on the Siberian Scale" was the title of an article published in STROITELNAYA GAZETA on 11 September 1985 (No 109). It analyzed the reasons for the delays in bringing the Tyumen Housebuilding Combine up to capacity and in increasing the combine's productivity. The question of delays in the construction of a plant for the production of bortosnastka and metal forms in Tyumen was also raised. The editors received a reply from R. Dzhepparov, chief of GUKS [Main Administration for Capital Construction], USSR Ministry of Industrial Construction, who reported that the construction of the plan had been included in the plan for 1986. Construction will be financed by capital investments transferred by the Ministry of the Petroleum Industry. The plant will be commissioned in 1988. [Text] [Moscow STROITELNAYA GAZETA in Russian 17 Nov 85 p 2] 5013

NEW BUILDING COMPONENT FACILITIES--A state commission accepted a large-panel housebuilding plant in the town of Shadrinsk on the other side of the Urals. IZVESTIYA staff correspondent G. Shcherbina reports that it is compact and occupies a small area. It has a capacity of 50,000 square meters a year. This will significantly accelerate the pace of construction in Shadrinsk as well as in the neighboring towns of Dalmatovo, Kataysk, Shumikha and rural

areas in Kurgan Oblast. "Mobil" (i. e., "speed, mobility") is the name given to the new enterprise by its creators--Zauraltyazhstroy trust builders and specialists of the Baukema-Export-Import firm from the German Democratic Republic which delivered and installed the production equipment. The plant, which began producing panels, blocks, stairwells, loggia and roof elements, and other items, will immediately increase by one-third the capacities of Ministry of Construction of Heavy Industry enterprises in the oblast. Its products will also become the standard for esthetic finishing: the technology includes painting components in various colors, blue glass facings, and "Dekor" glass chiplings. Other facilities that were put into operation in the last stage of the 11th Five-Year Plan will also expand the scale of housing construction in the oblast. They include the arbolite shop in the city of Shatrovo, a shop for fabricating panels for rural houses in the settlement of Prosvet, a claydite gravel plant in the city of Kargapol, and others. [Text] [Moscow IZVESTIYA in Russian 6 Jan 86 p 1] 5013

12TH FYP HOUSING PROGRAMS--Gosgrazhdanstroy [State Committee for Civil Construction and Architecture], at a joint meeting with representatives of construction ministries and departments, discussed 12th Five-Year Plan scientific-technical programs for improving housing and civil construction, city planning and architecture. The programs are oriented toward the accelerated retooling of enterprises fabricating fully assembled housing, improving the system of settlement, the restructuring of the countryside, the development of new types of residential and public buildings, and the introduction of effective designs and technologies. The broad diffusion of the progressive method of development by means of finished city designing and building complexes will promote the improvement of living conditions and the architectural appearance of new regions. A number of measures are planned to protect residential buildings from noise. One of the programs is devoted to the elaboration of current problems pertaining to the development of socialist society's architecture. Special attention at the meeting was devoted to Western Siberia, to regions in the North. It was noted that the development and introduction of new types of housing suited to these regions are unsatisfactory. For example, mobile housing designs have been shelved for many years by LenZNIIEP [Leningrad Zonal Scientific Research and Project-Planning Institute for Model and Experimental Designing of Residential and Public Buildings]. Ministries engaged in construction here do not show interest in them. Participants in the meeting were very concerned over the state of affairs with the reconstruction of large-panel housebuilding enterprises. It is essential to change the situation in which Gosgrazhdanstroy and its institutes essentially do not influence the technical retooling process in the housebuilding industry. The fulfillment of the indicated programs will promote the acceleration of scientific-technical progress in housing and civil construction, in raising the architectural level of our urban development, in reducing labor inputs, and in the saving of material and fuel-energy resources. [Text] [Moscow STROITELNAYA GAZETA in Russian 6 Dec 85 p 1] 5013

NEW CITIES--Sharpen your pencils, comrade cartographers! Soon we will be putting a new point on the map of the Motherland. Near Kostroma, on a picturesque river bank, builders of the USSR Ministry of Power and Electrification have begun the construction of a new city. It does not yet have a name. But the first blocks of buildings have already appeared. The workers of the Kostroma AES [Nuclear Power Station] will live in them. The draft of the Basic Directions indicates that in the years 1986 through 1990 a total of 565 to 570 million square meters of dwellings will be built. The USSR Central Statistical Administration helps us to "bring down to earth" this truly astronomical figure. This is what they told us: --the putting into use of 2 million apartments annually, about as much as in all of the countries of Western Europe taken together; --the replenishment of the country's available housing with a number of apartments that would be sufficient for a city of 1 million people in less than 2 months; --daily housewarmings in almost 5,500 apartments provided free of charge. And in conclusion, another bit of information: More than 60 new cities will appear on the map of the Country of the Soviets in the 12th Five-Year Plan. In short, a city every month... So it is time to sharpen your pencils, comrade cartographers. [By M. Zotova] [Excerpts] [Moscow IZVESTIYA in Russian 1 Jan 86 p 2] 9746

MODULE HOUSING--Krasnodar--The construction of the second phase of a plant for modular house building has been completed in Krasnodar. Because of this, 600 additional families will celebrate housewarmings next year. There was a noticeable improvement in the consumer qualities of the apartments in the houses constructed of modules. Their layout and comfort was improved and the area of the kitchens was increased. The architectural resolution of the facades became more expressive and plastic and this made it possible to diversify the entire architectural face of the city. [By A. Rivkin] [Excerpts] [Moscow IZVESTIYA in Russian 28 Jan 86 p 2] 9746

CSO: 1821/123

RAW MATERIALS, ACCOUNTING PRACTICES FOR CONSTRUCTION MATERIALS

Moscow EKONOMICHESKAYA GAZETA in Russian No 52, Dec 85 p 2

/Article: "Complex of Construction Materials"/

/Text/ Our country is a large producer of construction materials. For a long period of time, it has occupied first place throughout the world in the production of rolled metal, steel piping, cement and wall materials. The production of polymer materials and metallic powders is undergoing rapid development. A great future lies in store for compositional materials.

However, the production volumes and the structure and quality of the construction materials are not satisfying fully the increasing requirements of the national economy or the tasks concerned with radically accelerating scientific-technical progress. In recent years, insufficient attention has been given throughout the branches of this complex to the technical re-equipping and modernization of existing production operations, to developing the raw material base or to improving the quality of the products. The tasks of the 11th Five-Year Plan were not fulfilled in connection with the production of a number of very important types of materials. The national economy was not supplied with adequate quantities of rolled metal, cement or lumber.

A serious decline in the planned production volumes for efficient types of metal products has been tolerated at the Karaganda, Kommunar and Zhdanov imeni Ilich Azovstal combines and at the Novosibirsk Metallurgical Plant imeni Kuzmin. A radical improvement is required in the work if the production of construction materials is to be raised to a new level from the standpoint of quality and if the party's economic strategy is to be realized.

The prospects for developing the production of construction materials are set forth in the draft Basic Directions taking into account the tasks concerned with creating new and progressive equipment, following the resource-conserving trend in economic development and increasing the country's productive potential by not less than twofold by the year 2000. Improvements in the structure and quality of these materials and an expansion in the assortment -- such is the principal plan for development.

Progressive Structural Improvements

During the 12th Five-Year Plan, a typical feature in the production of construction materials will be progressive structural improvements. They are

conditioned by an increase in the production of economic types of products. Effective types of rolled ferrous metals, aluminum rolled metal, castings made from non-ferrous metals, synthetic resins and plastics, chipboard and fibreboard panels and other progressive materials are undergoing leading development compared to traditional materials.

The principal construction material continues to be metal. By 1990 the production of rolled ferrous metals will have increased to 116-119 million tons -- or by more than 8 percent. And the production of low-alloy steel will increase by almost one third, sheet cold-rolled steel by more than 20 percent and rolled metal with thermo-hardening treatment by more than 70 percent. The plans call for the mastering of not less than 500 new types of rolled metal profiles.

The plans also call for the extensive introduction of a new technology for the smelting of steel in converters with combined blowing and the use of 40-60 percent scrap metal in the charge. The casting of steel on machines for the continuous casting of billets will be increased by not less than twofold.

The branch is assuming a new appearance owing to complexes for the production of stainless steel using the method of gas-oxygen, argon-oxygen and vacuum-oxygen refinement, equipment complexes for the extraction, transporting and processing of iron and manganese ores and equipment for powder metallurgy and for applying coatings to piping and rolled metal.

Improvements in the structure and an increase in the quality of the construction materials are producing a many-sided economic effect in the metal-consuming branches. For example, an increase in the production of sheet rolled metal is making it possible to carry out structural improvements in machine-building and capital construction. This will make it possible to reduce the pool of metal-cutting equipment and to increase the proportion of forging and pressing equipment. As a result, a savings in the use of metal will be achieved, a reduction will be realized in the consumption of fuel and electric power, with an increase taking place simultaneously in labor productivity and in the quality of output in the metal consuming branches.

During the 12th Five-Year Plan, the plans for non-ferrous metallurgy call for the aluminum and tungsten-molybdenum industry and the production of metallic powders and a number of alloy metals to be developed at leading rates. One of the principal trends with regard to improving the production structure is that of introducing progressive technologies into production operations.

Deserving of special mention is the technology for smelting in a liquid bath, which brings about an increase in labor productivity and a reduction in fuel consumption. In addition to increasing the extraction of copper, this technology also makes it possible to recover zinc and sulphur, which are lost when use is made of the existing technology.

A large volume of work remains to be carried out in connection with raising the quality of the output of the lumber industry complex. An improvement in the quality of the lumber will be realized by treating the lumber materials with antiseptics and also by drying them. The plans call for the production of chipboard panels with oriented shavings to be organized. These high-strength

panels make it possible in a majority of instances to replace bonded plywood and they can be used extensively in motor vehicle and freight car construction and for other purposes. The plans call for the production of chipboard panels having an improved surface to be organized. Plywood will be produced using new capabilities only in large and waterproof forms.

The assortment of products in the cement industry will also be expanded and the quality of the output improved. A considerable increase will take place in the production of tamping, pre-stressed, high-strength and other special types of cement.

In the Interests of Chemical Processes

In conformity with the all-round program adopted for the use of chemical processes in the USSR national economy during the period up to the year 2000, the production of polymer materials and the products produced from them will undergo accelerated development.

A rapid increase in the industrial production of construction polymer materials of an engineering-technical nature and the creation of a new generation of polymer materials having improved operational characteristics will make it possible to expand the sphere of their use in the electronics, radio engineering and medical industries, in construction and in optical-fiber and membrane equipment and in this manner to raise the technical level of these production operations.

An increase in the level of industrialization and in the efficiency of construction production, a reduction in the consumption of rolled metal, cement and lumber and savings in the use of fuel-energy and other resources in construction, the production of construction materials and in the output of the pulp and paper and wood-working industries will be predicated upon an expansion in the use of progressive chemical materials. Towards this end, the plans call for an increase in the production of polymer construction and hermetic sealing materials of various types, in chemical additives for concrete and especially in super softening agents and the extensive introduction of polymer compositional materials for the production of construction, heat-insulating and finishing construction materials.

For the purpose of solving these tasks, the production of synthetic resins and plastics during 1990 will exceed the 1985 production volume by almost 35 percent.

Radical Modernization of Production

In the production of construction materials, an increase will take place in the role played by intensive developmental factors based upon utilization of the achievements of scientific-technical progress and the technical renovation of existing production operations.

During the 12th Five-Year Plan, inconformity with adopted programs, work will commence on the radical modernization and technical re-equipping of ferrous and non-ferrous metallurgy and the chemical and timber handling industry.

Considerable capital investments have been allocated for this purpose. The efficient use of these resources must be the object of constant attention by the ministries. During the 11th Five-Year Plan, notwithstanding the considerable economically effective use of scrap materials, secondary resources and waste materials by the construction ministries, USSR Minchermet /Ministry of Ferrous Metallurgy/ and USSR Mintsvetmet /Ministry of Non-Ferrous Metallurgy/, full use was not made of the capital investments made available. For example, capabilities were not introduced into operations for the processing of scrap materials at the Kirovgrad Copper Smelting Combine or at the Ukrtsink Plant. Many problems concerned with the use of secondary resources in the production of titanium and aluminum still remain unsolved.

At the present time, many enterprises have sufficiently developed and detailed programs and the prospects have been defined for the modernization and introduction of the achievements of scientific-technical progress. In ferrous metallurgy, the Cherepovets, Magnitogorsk and Kuznetsk metallurgical combines are included among these enterprises. Active work is being carried out at the Novolipetsk and west Siberian metallurgical combines. At the same time, the problems concerned with the technical renovation of production are not receiving proper attention at the Zaporozhstal, Azovstal and Orsko-Khalilovskiy combines.

During the 12th Five-Year Plan, all work concerned with organizing the all-round utilization of raw materials must be raised to a new level from the standpoint of quality. Special attention was given to these problems when developing the plans. For example, an inter-departmental territorial committee was created attached to USSR Gosplan for problems concerned with the development of the Kolskiy mining industry complex, which is analyzing in a comprehensive manner the potential, prospects and priority tasks associated with the all-round utilization of this region's natural resources.

In the case of intensification, one decisive factor is a maximum increase in the regime for realizing savings and eliminating losses and irrational expenditures. The conversion of branches engaged in producing construction materials over to new managerial methods must stimulate the carrying out of the established tasks.

An increase of 6.5 percent must be realized during 1986 in the production of economic types of metal products, plastics and wood panels. The production volume for rolled ferrous metals must reach 111.1 million tons. Plans call for the production of progressive types of rolled metal, plastics and other economic types of materials to be increased at leading rates.

Importance is being attached to making more efficient use of the increasing resources of progressive construction materials. The solution for this task is dependent not only upon the planning organs but also upon the supply and marketing and construction organizations and also upon the developers of new equipment. Thus the ministries and client-departments often display a preference for pipe made from traditional materials, mainly steel pipe and their plans practically never call for efficient types of pipe such as that made from thermoplastics. This testifies to the fact that the existing normative documentation of USSR Gosstroy is not adequately oriented towards the use of new materials and must be strengthened in this regard.

The creation of new materials and technologies for their production and processing is one of five priority trends of the all-round program for scientific-technical progress for CEMA member countries up to the year 2000. The conditions for this program will be taken into account in the appropriate sections of plans for the 12th Five-Year Plan. Importance is being attached to ensuring the unconditional and timely carrying out of the measures associated with its implementation.

In raising the quality of output, a greater role will be played by standardization. Here a basically new trend is that of converting over to the use of the special purpose program method, which makes it possible to balance the requirements with regard to output quality with the requirements for the initial raw materials.

Work is being carried out in USSR Gosplan in connection with improving planning for the production of construction materials based upon an all-round approach and taking into account their interchangeability and a comprehensive evaluation of the effectiveness of structural improvements in production and utilization. For example, a common balance for products made from ferrous metals, developed on the basis of more than 150 single-product accounting balances, has become a new instrument in planning work.

The task of collectives of enterprises engaged in producing construction materials is that of consisting implementing the program outlined in the draft Basic Directions and ensuring the unconditional fulfillment of the tasks for the 12th Five-Year Plan.

7026
CSO: 1821/107

CONSTRUCTION MATERIALS MINISTER ON SLOW TECHNICAL PROGRESS

Moscow STROITELNYYE MATERIALY in Russian No 1, Jan 86

[Article by S.F. Voyenushkin, USSR Minister of the Construction Materials Industry: "On the Path of the Acceleration of the Pace and the Improvement of the Quality of Production"]

[Text] The program documents, discussed nationwide on the threshold of the 27th CPSU Congress, clearly reflect the course taken by our party to accelerate the country's social and economic development and the content and direction of the party's economic strategy. This strategy was determined taking into account the further intensification of the scientific-technical revolution and aims at carrying out a new technical reconstruction of the national economy, putting it on the track of intensification and, on this basis, transforming the material-technical base of the society.

As a result of the acceleration of our development, it is planned to establish an economic potential in the next 15 years that is approximately equal in its scope to the potential accumulated during all of the preceding years of Soviet authority.

To achieve such horizons, it is necessary, as was said in the draft of the new edition of the CPSU Program, to reorient each enterprise and each sector toward the full and priority utilization of qualitative factors of economic growth. There must be a transition to a highly organized and efficient economy with comprehensively developed productive forces, mature socialist production relations, and a well-adjusted economic mechanism.

This sets new and important tasks in scientific-technical progress for all sectors of the national economy. A large number of such tasks, and very complex ones at that, face the construction materials industry, which represents a large diversified industry. It includes dozens of diverse production systems, essentially independent sectors differing from one another in their technological characteristics, degree of being supplied with equipment, types of raw materials processed, and properties and purpose of the output produced.

All of this makes it essential to develop--not only for all sectors but also for each enterprise (association)--a well thought out complex of measures

intended for rapid results in the restructuring of production at a higher technical level with a marked improvement in economic indicators.

In preparing for the 27th PCSU Congress, the country is reviewing the results of what has already been done. During the years of the 11th Five-Year Plan, a large step was taken in raising the well-being of the Soviet people and in developing all sectors of the economy. The national income of the USSR increased by 17 percent in comparision with 1980. More than 840 billion rubles in capital investments went into the consolidation of the material base of the national economy and the construction of housing and social-culture and other facilities. More than 1,000 new up-to-date industrial enterprises were put into operation and a total area of more than 550 million square meters of housing was constructed.

The labor of the collectives of the enterprises and organizations of the construction materials industry had a substantial part in the broad development of production, housing, and communal construction as well as in the establishment of new well-built industrial centers and rural inhabited localities. During the past period, the production of the basic types of sector output was increased, the production of a number of efficient materials and products was expanded, and some improvement was achieved in the technical and economic indicators of the work.

In the years 1981-1985, production of cement at ministry plants increased by 5 millions tons, that of slate by 918 million standard sheets, asbestos-cement pipe by 8,500 standard kilometers, ceramic tiles for covering floors and the inner walls of buildings by 13.8 million square meters, rolled roofing material by 220 million square meters, linoleum by 12.6 million square meters, and plate glass by 4.1 million square meters. As everyone knows, the Soviet Union is leading the world in the production of most of these materials.

During these years, high-capacity industrial lines for the production of cement using the dry method went into operation at the Karaganda and Krivorozhskiy cement plants, for the production of large-sized asbestos-cement sheets at the Belgorod, Sebryakovskiy and Bryansk combines, and for the production of ceramic tiles at the Minsk combine for building materials, the Slavyansk and Angren ceramic combines, and the Kharkov tile plant. New capacities have been created for the production of bricks, including with the use of self-contained imported and reproducible equipment, as well as nonmetallic materials and limestone meal for agriculture.

In developing creative competition directed toward the utilization of reserves and the potential possibilities for growth and the improvement of production, many labor collectives completed their five-year plans ahead of time and achieved a noticeable improvement in the effiency of their own work.

Through the efforts of advanced enterprises, research and planning-design organizations, and specialized academic departments and problem-solving laboratories of VUZ's, a good deal of work of unquestionable interest has been performed recently in new equipment and technology for the ceramic, cement,

glass and other production processes and in the putting new materials and products into production.

At the same time, the work of industry requires a critical evaluation. The large reserves that it has for growth are not being used well. The plans for the output of a number of materials and products are not being fulfilled. There are enterprises whose indicators have declined during the five-year plan relative to the previous period.

An analysis of the situation in various production links, including the leading ones (according to the volume and importance of the output produced), indicates the presence of a number of negative phenomena in the development of the sector that are especially perceptible from the positions of today's approach to the methods and results of management and to the assimilation of the new equipment and achievements of contemporary science.

In discussing the conclusions and tasks flowing from the aims of the conference in the CPSU Central Committee held on the 11th and 12th of June 1985 on questions in the acceleration of scientific-technical progress, the ministry's collegium noted that there has been no consistent course in industry for the intensification of production. A significant part of the resources allocated to the increase in capacities went into new construction, whereas less than one-third of capital investments were for the reconstruction and technical reequipment of enterprises and the renovation of fixed capital. Low indicators for the work of industry are the direct result of such an investment policy. The technical level of the production of many basic types of building materials, including cement, slate, window glass, plaster, brick and other materials, still does not meet current requirements. Few efficient products essential for the industrialization of contruction are being issued.

Every year in industry, plans were confirmed for scientific research, experimental work, and the extablishment of new types of output. But as a rule, these plans did not provide for the large-scale utilization of progressive technologies, the latest equipment and means of mechanization, or serious changes in the qualitative structure of production.

It cannot be said that the construction materials industry does not have the possibility of introducing new and the latest equipment rapidly and on a broad front. There is a ramified network of sectorial and intersectorial institutes, planning and design, start-up and other organizations. But this entire scientific-technical potential is not being utilized with the necessary efficiency. The main reasons for this are the continuation of the emphasis on minor matters and the lack of a clear orientation of the subject matter toward problems determining the technical policy of the sector. There is not the proper concern and responsibility for the establishment of the conditions providing for the rapid assimilation of new technical developments into industrial practice, even though in essence production and scientific institutions are in the same hands--in the management of the central sector boards, directorates, associations and ministries of the construction materials industry of the union republics.

This is precisely why people are very slow in resolving even such important tasks of technical progress as the transition of operational cement plants from the wet to the dry production method, the industrial assimilation of the low-temperature (saline) technology for obtaining cement, the introduction of a new highly productive method for the manufacture of window glass equal in quality to plate glass, the implementation of measures to improve brick technology with a marked reduction of expenditures of manual labor and the transition to the production of primarily hollow ceramic products, and the organization of the mass production of new improved products and structural elements with a high degree of plant prefabrication on the basis of polymers, various types of local raw materials, industrial wastes, etc.

The party points out the necessity of strengthening the integration of science and production, improving organization, and reducing the time for the development and assimilation into the national economy of scientific discoveries, technical innovations, and inventions.

It is planned to establish a number of large-scale research associations and engineering centers for the purpose of strengthening cost accounting in the organization of work in new technology and improving the management and development of sectorial science and technology in the construction materials industry.

The new five-year plan is already under way. And although some projects are still bieng refined, one can say with certainty that a significant step forard will be taken in the development of the production of all basic types of building materials, in the qualitative improvement of our industry, and in raising its technical level and the indicators of economic efficiency.

The draft of the Basic Directions of the Economic and Social Development of the USSR for the Years 1986-2000 and for the Period Through the Year 2000 foresees "increasing the production of cement to 140 to 142 million tons in 1990 and improving its quality, developing the production of effective building materials, making broader use of materials obtained incidentally, secondary raw materials, and wastes of other sectors for the production of building materials, consistently delivering products with a high degree of prefabrication, and expanding the assortment and volume of deliveries of high-quality output for the needs of the public, including local building materials."

For the ministry in 1990, the production of cement will increase by 10.3 million tons relative to the 11th Five-Year Plan, slate by 1.25 billion standard sheets, plate glass by 16 million square meters, rolled roofing material by 183 billion square meters, ceramic tiles for covering floors and inner walls by 6.9 million square meters, linoleum by 38.2 million meters, wall materials by 5.4 billion standard bricks, nonmetallic materials by 24.7 million cubic meters, slag cotton and derived products by 6.6 million cubic meters, and limestone meal by 14.7 million tons.

It should be stressed that for most of the named and other materials and products both the rate and the absolute amounts of the increase in production greatly exceed the indicators of the preceding five-year plan. And this must

be achieved primarily as a result of the better utilization of the existing production potential. At operational capacities, then, it is planned to obtain three-fourths of the total increase in the production of cement, two-thirds of that of slate, and almost the entire increase in the production of asbestos, window glass, heating radiators, tubs, facing ceramic tiles, and other items.

For the sector as a whole, it is planned to increase labor productivity by 17 percent, exceeding the rate of increase in industrial output. In 1990, the labor saved will amount to almost 170,000 people. The increase in productivity is to privide for the entire increase in industrial output specified for the five-year plan. The manning of the newly introduced capacities with workers will be done within the limits of the existing operating personnel.

Production cost, which depends upon the sum of production expenditures, is the synthesizing indicator of the economy of any enterprise and any production sector. Expenditures declined extremely slowly during the 11th Five-Year Plan. In the new five-year plan, it is planned to reduce them drastically through the broad introduction of resource-saving technologies, the reduction of the materials and labor-intensiveness of the output produced, and the elimination of unplanned idle time of equipment and losses of raw material, fuel and energy. The production cost of output must be reduced by 4 to 5 percent for the USSR construction materials industry as a whole.

For the purpose of a very rapid reorganizaton of the work of industry based on the sharply increasing demands on the technological level of production and on management results, the ministry worked out a program of priority directions and tasks in the introduction of up-to-date equipment and technology and advanced methods of organizing labor.

The main thing in the cement industry is the implementation of a complex of tasks for the introduction of energy-saving technologies: the complete assimilation as early as the current year of a first line with a reactor-decarbonizer at the Krivorozhskiy Cemment Plant, bearing in mind that the equipment of such lines must be reproduced in series to increase the capacities in the dry method of cement production; the achievement of the planned indictors of previously introduced furnaces working under this method at the Karaganda and Novoi cement plants, the introduction of new capacities at the Rezina Cement Plant now under construction and at other plants; and the transition of furnace units of the Korkino, Chernorechensk and other plants from the wet to the dry method. All of this will make it possible to increase the output of cement by about 9 million tons using this method and to save about 1 million tons of standard fuel a year.

Of great importance is the industrial assimilation of the low-temperature (saline) technology established by Soviet scientists for the production of cement. This must be done at the Akhangarantsement Production Association and at the Mas-Tyubinsk Cement Plant and other plants.

Taking into account the still-considerable relative importance of the wet method, very serious attention should be paid to the reduction of the moisture

content of the slurry through the application of various technogenic and plasticizing additives as well as power plant ashes. From a technical point of view, this matter is rather clear. Here one only needs persistent organizational work in searching for and utilizing all possibilities for carrying out the established tasks in the introduction of additives substantially reducing the expenditure of fuel. Positive results are apparent where such work is organized.

Priority tasks in the glass industry include the reduction of fuel expenditures in the founding of the glass melt by means of the heat insulation of pot furnaces; the introduction of new facilities and methods that make possible the more rational burning of fuel; the production of window glass of small nominal values and glass products of smaller mass at high quality; and the application of a process of electric founding of glass for different functions in furnaces especially developed for this purpose.

There are plans at a number of plants for the introduction of a fundamentally new technology for the thermal molding of window glass that will make it possible--in addition to a marked increase in labor productivity (by a factor of 2 to 2.5) and in quality of output--to reduce the expenditure of fuel by 6 to 7 percent. One such line is already operating at the Saratov Glass Plant and a second one is being put into operation at the Salavat Glass Plant. It is planned to reconstruct the Tokmak Glass Plant in Kirghiz, the Proletariy plant in Donbass and a number of other glass plants and to transer them to this method.

A large complex of tasks in the technical reequipment of production must be carried out in the asbestos cement industry. Here it is necessary to renew a significant part of the operating industrial equipment. At many plants, it is planned to replace obsolete sheet-molding lines with more complete and larger ones and to install highly productive pipe-molding machine units. Together with the machine builders, in the very near future it will be necessary to complete the tasks in the manufacture of machines with new designs for the production under the laying method of a corrugated profile (having a length of 3.3 meters) for the erection of industrial buildings.

A central place in the technical policy of asbestos cement production belongs to its energetic reorganization for the manufacture of industrial products and structures, including reinforced planking, extrusion panels and profiles, large-sized corrugated and flat structural sheets, facing tiles and sheets for finishing buildings, and high-pressure pipes of increased length.

The brick industry is still the most backward industry in its technical level. There is an extensive program to transfer it to up-to-date equipment with a marked reduction of the use of heavy manual labor and an increase in the output of efficient (hollow) products. New brick plants have been and are being constructed in the country on the basis of self-contained equipment purchased abroad and reproduced by domestic machine building. This opened up possibilities for a fundamental restructuring of technology and for a significant easing and improvement of working conditions.

But it must be said that the construction of new and the putting into operation of previously introduced brick plants with unitized equipment is still intolerably slow, and this is the fault not only of the contract construction organizations but also of the planning institutes of the construction materials industry itself and the workers of the ministries, associations and enterprises.

Work is also being done without the proper continuity and persistence in the reconstruction, modernization and replacement of obsolete equipment and in the mechanization and automation of industrial processes at operational plants. Meanwhile, the implementation of measures worked out in this area, including the introduction of improved automatic stackers and placers for clay brick, the conversion of a number of silica plants to the production of hollow products, and other measures, can lead to an increase in output measured in hundreds of millions of bricks without introducing new capacities and it can sharply reduce labor input and improve the entire production process. The implementation of an entire complex of work directed toward the resolution of these tasks is a matter of primary importance. In this matter, the enterprises of the wall materials industry have a right to count on the help of local authorities, especially in the manning of brick plants with key workers and in the mechanization of labor processes.

The measures confirmed by the ministry with priority importance for scientific-technical progress include important questions for the introduction of new equipment and technology and the improvement of the quality indicators of the work of all production sectors.

At the plants for rolled roofing material, for example, obsolete ruberoid machine units will be replaced with new units with a greater capacity and a number of cardboard-making machines will be modernized. It is planned to reconstruct enterprises for polymer construction materials on the basis of their conversion to the production of more efficient output. At the plants of the plaster industry, highly productive rotary machines and molding machine units are being installed for the manufacture of partition boards of the tongue and groove design, as is equipment for the production of sound-absorbing and facing tiles.

A problem determining the technical level of any sector is the progressiveness of the output issued. This problem was put in the forefront by the decree of the CPSU Central Committee and USSR Council of Ministers "On the Further Development of Industrialization and the Raising of Labor Productivity in Capital Construction." The basic tasks foreseen by the decree have already been covered on the pages of the magazine STROITELNYYE MATERIALY. But it will be necessary to return to these questions repeatedly.

We will present just some of the data characterizing the scope of the work to establish and develop the production of new building materials, products and structural elements of plant manufacture. The industrial production of extrusion asbestos cement panels and roofing slabs must be practically reorganized and increased from 600,000 square meters in 1986 to 3.5 million square meters in 1990. The output of lightened wall materials from porous concrete for rural areas will increase by a factor of almost 2.1 to 4 billion

standard bricks. In 1990, 80 million square meters of sheetrock of improved quality will be produced compared with 28 million square meters in 1980. The output of rigid slag cotton sheets and sheets with increased rigidity more than doubled from 310,000 to 700,000 square meters. Very demanding tasks have also been established for the production of a number of materials based on polymers, perlite and natural facing stone.

As early as 1986, the production of the named and other efficient types of output must be organized at 37 reconstructed, expanded or newly built enterprises. It should be noted that more than 50 percent of the increase in the production of these materials must be obtained through the technical reequipment and reconstruction of production.

It is necessary on a large scale and at a rapid pace to increase the production of other new and improved materials in an extensive list of ceramic products including colored and architectural building glass, durable roofing materials with coarse-grained sprinkling, high-strength special and decorative cements, economical heating radiators, boilers, and sanitary engineering fittings.

For the sector as a whole, it is planned to increase the relative share of output in the highest quality category to 37 percent. That exceeds the current level by a factor of 2.5. The experience of the collectives of many enterprises and the major work outlined in the technical reequipment of production make possible the unconditional fulfillment of this task.

At the same time, today the main task of the workers, specialists and economic managers of each enterprise and each sector of industry is to improve the quality of all output. The time has passed when one could seek and find possibilities for the sale of unsuitable output.

The reasons for the lagging behind of many enerprises both in the fulfillment of production plans and in technical and economic indicators include the poor organization of labor, violations of discipline and related losses of working time, and equipment downtime. Experience shows that where there is a true concern about brigade forms of organizing and remunerating labor, productivity is higher, discipline is stronger, there is less personnel turnover, and the flow of the entire production process is stable. This was especially stressed at the meeting in the CPSU Central Committee with veterans of the Stakhanovite Movement. In this connection, it was noted that it is not a matter of a formal increase in the number of brigades but of ensuring the cost accounting principles of their work, under which the remuneration of labor depends upon its final results.

There are examples where the introduction and improvement of brigade forms yield good results. Much has been done for the development of brigade methods and their high productivity at the Belgorod Combine for Asbestos Cement Products, the Topki Cement Plant, the Kamyshin Glass Container Plant, the Semipalatinsk Combine for Ferroconcrete Products No 1, and elsewhere.

But there is still little being done for the successful organization of this work in the industry as a whole. At the enterprises of the Uzbek SSR Ministry

of the Construction Materials Industry, for example, where one-third of all workers workers are in brigades, day-long idle time has increased in the last 2 years to 10,000 man-days. They are extremely slow in introducing brigade cost accounting at plants in Kirghiz, Moldavia and a number of RSFSR oblasts and krays. In the very near future, there must be a substantial improvement in all of the work having to do with the introduction of brigade forms of organizing and remunerating labor. At the same time, greater attention must be paid to the certification of workplaces.

The Soviet people unanimously approved the course developed and substantiated in detail by the party for the acceleration of the country's social and economic development. At the initiative of the Volzhsk AvtoVAZ Association, there is a movement of workers for the acceptance of socialist obligations that permit one to reach for limits in the development of production that go beyond what was foreseen in the control figures for 1986 and the 12th Five-Year Plan.

In the construction materials industry, the collective of the Borskiy Order of Lenin Glass Plant imeni M. Gorki was the first to accept the high obligations for the period ahead. It decided to put into operation a highly productive line for the thermal molding of plate glass having a capacity of 10 million square meters a year ahead of schedule and to produce 10 percent more of this output in the final year of the new five-year plan than is indicated in the control figures, to surpass the economic indicators foreseen in the plan, and to carry out a number of important measures for social welfare. At the request of the workers, the socialist obligations entered into were included in the State Plan of the enterprise for 1986 and the five-year plan.

This initiative was approved by the ministry collegium and by the central commitee of the trade union. It has been taken up by many collectives, including the Nevyansk and Gornosavodsk cement plants, the Savino Plant for Asbestos Cement Products, the Moscow Order of the Labor Red Banner Iron Foundry imeni Voykov, the Tulasantekhnika Production Association, the Karaganda Order of the Labor Red Banner Plant for Heating Equipment, the Polimerstroymaterialy Plant in Leningrad, the Krasnodar Combine for Building Materials No 1, and other enterprises. Their number is growing.

The industry workers and all Soviet people are preparing to observe the 27th CPSU Congress with great enthusiasm. They are filled with the desire and determination to apply all of their efforts and to contribute their labor to the successful fulfillment of all indicators of the plan for 1986, which begins a qualitatively new stage in the development of the Soviet economy.

9746
CSO: 1821/119

DETAILS ON PRODUCTION OF CONSTRUCTION MATERIALS IN NEW PLAN

Moscow STROITELNYYE MATERIALY in Russian No 12, Dec 85 pp 2-3

[Unsigned article under the "Toward the 27th CPSU Congress" rubric: "An Important Link In the Industrialization of Construction Production"]

[Excerpts] Labor collectives are studying and discussing pre-Congress documents--the new draft of the CPSU Program and the Basic Guidelines for the Economic and Social Development of the USSR in 1986-1990 and in the Period 2000, as well as changes in the CPSU Statutes.

The 12th Five-Year Plan calls for substantially increasing the volume of large-panel and prefabricated room units and the output of complete buildings and structures based on light metallic and other efficient designs and materials.

The production of advanced materials and articles made of asbestos cement will increase markedly. There are plans to manufacture 600,000 square meters of asbestos cement extrusion panels and coated slabs for industrial buildings as early as 1986 and 3.5 million square meters in 1990. Provision has been made for sharp growth in the production of thermal insulating materials for light enclosing designs. All told, the production of thermal insulation, including high-strength rockwool slabs and sewn mats, various expanded plastics and perlitic fiberboard will increase from 1.1 million to 5.8 million cubic meters.

The production of cellular concrete articles and heaters for prefabricated wooden housing units will be developed at an accelerated pace to meet the demands of rural housing construction. A total of 4 billion conventional brick units of efficient wall materials made of cellular concrete must be produced for rural construction by the end of the five-year plan. Their production should already total 2.1 billion conventional brick units in 1986. The increase will be provided for through the commissioning of new capacities. Well tested sets of equipment for the production of cellular concrete blocks on "Universal-60" production lines with a capacity of 80,000 cubic meters a year have been adopted as the basis.

Expanding the scale of rural housing construction is impossible without industrializing the production base. New enterprises for the production of modern wooden housing units with bearing-wall design and also complete sets of parts for units with walls made of local materials, are being built and existing enterprises for their production are being expanded. Thermal insulation is needed to complete these units and slightly longitudinally sewn mineral wool and rolled mats are efficient types of such insulation.

Machines for sewing, rolling and packing rockwool mats with a capacity of up to 100,000 cubic meters a year will be manufactured at the Ministry of Chemical and Petroleum Machinery's enterprises and installed in our branch for the production of efficient heaters for the aforementioned purpose.

The USSR Ministry of the Construction Materials Industry has been set the task, beginning in 1987, of ensuring that heating boilers are only produced with automated and mechanized furnaces and burners and only in complete units. The production of mobile boiler installations at the Bratsk Heating Equipment Plant has been expanded to ensure that this assignment is fulfilled.

Expansion of the products list and an increase in the production of finishing materials are an important trend in the development of efficient materials. Facilities for the production of partition boards and panels made from improved quality gypsum sheet, wallboard and fiberboard and for the production of thermal and acoustic insulating linoleum, decorative polymer films for walls, glass-fiber roofing paper and mastic and rolled roofing materials based on synthetic raw materials are being expanded and reestablished on a large scale.

The new production of gypsum articles will evolve on the basis of new equipment that is presently being developed and will be manufactured and put into series production during the 12th Five-Year Plan. It includes continuous lines for the production of gypsum bonding agents with a capacity of 80,000 tons a year, vertical autoclaves with a capacity of 20.5 cubic meters for the production of high-strength gypsum, production lines for high-strength gypsum bonding materials made of phosphogypsum with a capacity of 180,000 tons a year, revolving machines for the manufacture of tongue-and-groove partition gypsum board with a capacity of 500,000 square meters a year, machinery for the production of 200 million conventional brick units of gypsum concrete wall blocks annually, complete lines for the production of 5 million square meters of gypsum wallboard a year, and much more equipment.

The series production of new equipment for manufacturing polymer materials will be developed during the 12th Five-Year Plan: highly productive lines for the production of polymer roof mastic, self-contained automated production lines for the manufacture of oiled polyvinylchloride linoleum with a capacity of 6 million square meters a year, complete sets of equipment

for production lines that produce bonding mastic with a capacity of 5,000 tons a year, and complete sets of equipment for the production of expanded polystyrene by the heat shock method with a capacity of 200,000 cubic meters a year.

The resolution of the CPSU Central Committee and USSR Council of Ministers "On Further Developing Industrialization and Increasing Labor Productivity in Capital Construction" provides for growth in the amount of raw material extracted for artificial porous fillers and thermal insulation. Specific deposits were cited: the Armenian SSR's Aragats enterprise will increase the amount of perlitic raw material extracted to 1.1 million cubic meters a year, the Ukrainian SSR's Beregovskiy quarry has made provision for an increase in the amount of perlite extracted to 250,000 cubic meters, and the Buryat ASSR's Zaigrayevskiy quarry administration will increase to 400,000 cubic meters. Plans call for the construction in 1986-1990 of two grinding-and-sorting plants for the production of basaltic and diabase crushed stone needed to manufacture mineral wool articles, at deposits in the Karelian ASSR and Rovno Oblast.

The task has been set, beginning in 1986, to organize the delivery of a number of key construction materials and articles in a complete set with the necessary auxiliary materials and fasteners, and as a rule, in containers and in packaged form.

13149/12858
CSO: 1821/102

UDC: 69.003: 658.152.011.46

SYSTEMATIC ECONOMIES PROPOSED IN USE OF CEMENT

Moscow EKONOMIKA STROITELSTVA in Russian No 11, Nov 85 pp 47-49

/Article by V.A. Gusev, deputy minister for industrial construction of the UkSSR and M.Yu. Leshchinskiy, Candidate of Technical Sciences: "Overall Approach for Economies in Use of Cement"/

/Text/ Under modern construction conditions, special importance is attached to realizing economies in the use of cement. For it is in this branch that use is made of the principal bulk of cement being produced throughout the country. Distinct from a majority of other materials used in construction, cement is used not in a marketable form but rather as a raw material for the production of concretes and solutions.

A number of efficient methods for reducing cement consumption have been developed over the past few years. Included among them in particular are the statistical method for controlling the strength of concrete, valid changes in the methods for testing it, the use of chemical additives and ash and others. The operational experience of UkSSR Minpromstroy /Ministry of Industrial Construction/, Glavkievstroy and other organizations convincingly confirms the effectiveness of these methods.

A reduction in cement consumption during the preparation of concrete and solutions appears as a complex task. Actually, measures aimed at achieving economies in the use of cement must be carried out by various organizations and enterprises, from the planning organs up to the operational services. This circumstance derives from at least two factors.

First of all, a large number of methods for reducing cement consumption are associated with the work of various organizations and branches. For example, the industrial production of adequate quantities of chemical additives -- accelerants for the hardening of concretes and solutions and super-plasticizers -- make it possible to realize a cement economy on the order of 5-10 percent. Improvements in the planning solutions for buildings and installations to be erected make it possible to lower the grade of the concrete or to reduce the volume of reinforced concrete and concrete structures and this ensures a considerable savings in the use of cement. Thus, in order to utilize the maximum possible number of methods for realizing economies, those individuals who are capable of lowering the consumption of cement through the carrying out of these measures must be encouraged to participate in this work.

Secondly, there are a number of rather substantial methods for lowering cement consumption which are not being used fully at the present time owing to the absence of an all-round approach. For example, in accordance with SNiP /Construction Norms and Regulations/ 5.01.23-83, various optimum grades of cement are recommended for the preparation of different grades of concretes. The use of these particular grades of cement ensures a minimal expenditure of the latter when achieving the required and planned strength for the concrete. For an average ZhBI /reinforced concrete products/ plant which produces products from concrete of grades 150 to 400, the simultaneous use of three recommended grades of cement 300, 400 and 500 is required (with an increase in the grade of concrete to 600, two more recommended grades of cement 550 and 600 are added). As a rule however, the ZhBI plants are unable to carry out this requirement of the SNiP.

At the present time, solutions have been found at a majority of the enterprises for the problems concerned with the separate storage of cement by grades. This has made it possible to avoid overexpenditures caused by the mixing of cements of various grades. But this does not ensure its efficient utilization. Under the real conditions found at a non-specialized ZhBI plant, different grades of concrete for the production of concrete and reinforced concrete products are delivered to the various bays or sectors during the course of a shift for a concrete-mixing unit. In addition, quite often the concrete-mixing unit also prepares marketable concrete mixtures. Since the existing system of bunkers and batchers for concrete-solution units was not developed for the simultaneous use of different cement grades, use is made of one grade of cement and this naturally precludes the possibility of achieving a minimal consumption of cement. It should be taken into account that two principal types of cement are employed at some ZhBI plants -- portland cement and slag portland cement and at times even special types of cement, for example, sulphate-stable cement.

The efficient use of cements, taking into account their grades and types, must obviously be achieved using two chief methods: through the development and carrying out of planning solutions which expand the potential of ZhBI plants for the simultaneous use of different cements and through the specialization of ZhBI plants.

Such tasks arise also when use is made of crushed stone of the maximum permissible size and several chemical additives, including complex types and so forth. It is clear that the carrying out of such measures with such effectiveness, aimed at achieving economies in the use of cement, is possible only due to joint work by the planning, supply, design and production organizations.

The above measures can be combined into eight groups depending upon the stage, the branch or the sphere in which they are to be carried out.

The first group of measures applies to the work of the planning and supply organizations. This includes the production planning for cement by types and grades, taking into account the requirements of the consumers and the timely and rhythmic deliveries of cement, planning optimum specialization for the precast reinforced concrete enterprises, planning and delivery of additives for

concretes in the required assortment, planning for the production of new types of astringents and so forth.

Measures of the second group must be carried out at enterprises of the cement industry, from which the builders must obtain their cement in the planned assortment by types and grades. Included among these measures -- terminating the deliveries of hot cement and cement with signs of false hardening, reducing the production of flawed materials and raising the reliability of the cement grade indicated in the accompanying documents, lowering the transport losses which occur when shipping the cement from the plant to a consumer, organizing the mass production of cement having a raised activity during steaming for the production of precast reinforced concrete, organizing the production of new types of astringents and others.

The third group of measures for realizing economies in the use of cement relates to the work of enterprises concerned with the recovery, processing and production of astringents: fractionation and production of washed astringents of the prescribed size, strength, average density and so forth.

Measures of the fourth group relate to the work of those planning organizations which develop plans for new precast reinforced concrete enterprises and marketable concrete mixture enterprises and also for the modernization of existing enterprises. The measures included in this group must ensure a solution for the task concerned with the efficient use of the various grades of cement, aggregates of various sizes, several types of chemical additives, including complex cinders, the use of automatic systems, batching and thermal processing, a reduction in concrete mixture losses and so forth.

The fifth group may include measures which must be carried out in planning and design organizations which develop the precast monolithic reinforced concrete structures for the plans for buildings and installations. The measures of this group are aimed at reducing the cement-intensiveness of structures through optimization of their dimensions and concrete grades and through improvements in all elements of construction planning. This also applies to the assignment of a minimal tolerance for the strength of the concrete during the production of precast structures, ensuring their technological effectiveness, the use of high grades of cement, raising the durability of the structures by means of optimum planning solutions and so forth.

The measures of the sixth group apply to the sphere of plant production of precast reinforced concrete and marketable concrete mixtures. Included also are measures aimed at reducing cement losses, raising the quality of the aggregates, planning an optimum composition for the concrete, using additives in the concrete, improving the production technology, establishing norms for cement consumption and controlling quality.

The seventh group consists of measures relating to the sphere of construction production. This includes optimum grouping of construction projects, improvements in the acceptance and storage of precast reinforced concrete, reducing losses in concrete mixture during the erection of monolithic structures, the use of falseworks with minimal tolerances and improving the handling of hardening concrete taking into account the climatic conditions, quality control and others.

Measures in the eighth group apply to the sphere concerned with the operation of buildings and installations. For the most part, this includes solutions aimed at raising the service life of reinforced concrete structures and the thrifty consumption of cement during repair operations.

It should be emphasized that the inclusion of a known or new measure for achieving an economy in the use of cement in a particular group is in no way affected by which organization or individual developed or recommended it or by when it was developed or recommended. The chief concern is in which branch or sphere it should be carried out. For example, a valid change in the planned grade of cement to be used in reinforced concrete structures can be proposed by ZhBI plant workers (and this often happens) or by a construction organization. However, the implementation of this recommendation, in the form of a change to the planning documentation, must be carried out by the planning institute in response to a decision handed down by the customer. Such a measure must be included in the fifth group. A recommendation by quarry workers or builders for improving the heat processing of concrete products at a ZhBI plant must be included in the sixth group of measures.

The measures for achieving economies in the use of cement, when combined into groups, are interrelated. This interrelationship is manifested not only in the fact that many of them supplement one another; some are carried out jointly and others are interchangeable. Some measures belonging to one group can be effective only during the carrying out of measures relating to another group. As already mentioned, only if a ZhBI plant is able to use cements of various grades and crushed stone of varying maximum size (measures of the fourth group) will it be possible to realize a positive effect from planning and the production and delivery to ZhBI plants of various grades of cement and crushed stone of varying sizes (measures of the first, second and third groups).

The proposed (or similar) distribution of measures aimed at achieving a savings in the use of cement reveals on the basis of groups that organizations and enterprises of different profiles are potentially able (and hence they are under an obligation) to achieve a specific economy in the use of cement. Moreover, this economy can be realized by virtue of the sphere of their activity. For example, a shortage in the delivery of cement to builders cannot be considered as a savings achieved by the supply organizations and a reduction in the funds allocated for cement owing to the introduction of statistical control over the strength of concrete at a ZhBI plant cannot be viewed as an economy by the planning organizations, and so forth.

An important condition for composing scientifically sound and realistic plans that will ensure a maximum possible economy in the use of cement during a given stage is that of selecting methods (measures) for achieving a savings in cement for each group.

The country's leading institutes in the area of concrete and reinforced concrete (NIIZhB /Scientific Research Institute of Concrete and Reinforced Concrete/ of USSR Gosstroy, VNIIZhelezobeton /All-Union Scientific Research Institute of Reinforced Concrete/ of USSR Minstroymaterialy /Ministry of the Construction Materials Industry/, MISI /Moscow Construction Engineering Institute/ imeni V.V. Kuybyshev and others) and many production organizations recommended the use

of a large number of effective measures aimed at economizing in the use of cement in construction. Although they have been described in various publications, they have not as yet been systematized. This is why many of them often escape the attention of those for whom they were intended and in many instances they are by no means being used in the volumes required at the present time.

An intelligent and complete selection of measures makes it possible to systematize existing experience, uncover efficient methods for realizing economies, to compare and evaluate the different variants for solving the same tasks, to avoid duplication, to facilitate the selection of optimum solutions and to select the economic methods correctly while taking into account the multiple-stage base for achieving these economies.

The development of a sufficiently complete nomenclature of measures for achieving economies in the use of cement for each group is a concern for the respective scientific-research organizations. It is our opinion that they must also develop recommendations for their use.

7026
CSO: 1821/92

BRIEFS

PLASTIC VERSUS METAL PIPE--USSR Gosstroy has adopted a program of work for civil housing construction which involves converting over to the extensive use of plastic pipe instead of metal pipe. "This program" explained the director of the Central Institute of Engineering Equipment for Populated Areas of Gosgrazhdanstroy I. Rubchak, "calls for a sharp increase in the use of plastic and asbestos cement pipe, so as to ensure within a period of 2 years practically the complete replacement by them of costly metal pipe, for use in piped drainage systems, during the installation of water supply lines and sanitary-engineering equipment and for protecting interior electrical wiring. The successful introduction of this new innovation will require thorough preparations and the production of devices and instruments and also measurement instruments for carrying out checks on the quality of the connections. The series production of portable units for welding plastic pipe will commence this year. /by Ye. Yampolskiy/ /Text/ /Moscow IZVESTIYA in Russian 14 Jan 86 p 2/ 7026

REINFORCED CONCRETE ADDITIVE--Tbilisi--The reliability and durability of structures made out of reinforced concrete, used under the complicated conditions associated with underground workings, are raised considerably by copper. Scientists at the Institute of Mining Mechanics of the Georgian SSR Academy of Sciences have established the fact that a small additive of lime and copper sulphate to cement raises the resistance of reinforced concrete against the effects of strongly mineralized hydrogen sulphate underground waters. One type of bacteria which causes concrete corrosion propagates in this environment. Copper sulphate is used as a strong poison for combating this bacteria. The method recommended by the specialists will also find use during the construction of subways. Its use will make it possible to raise the durability of complicated hydraulic engineering installations. /Text/ /Moscow STROITELNAYA GAZETA in Russian 11 Dec 85 p 2/ 7026

REZINA CEMENT PLANT--The first phase of the Rezina Cement Plant (Moldavian SSR) has been placed in operation. Each year more than 1 million tons of products, prepared using the progressive dry method, will be produced here. /Text/ /Moscow EKONOMICHESKAYA GAZETA in Russian No 3, Jan 86 p 3/ 7026

CARBAMIDE PRODUCTS--Odessa--A unit for the production of 330,000 tons of carbamide annually has been placed in operation at the Odessa port plant one month ahead of the date called for in the socialist obligations. /by G. Dolzhenko/ /Excerpt/ /Moscow STROITELNAYA GAZETA in Russian 18 Dec 85 p 3/ 7026

IMPROVED CERAMIC BRICK--Artemovsk, Donetsk Oblast--A local ceramic pipe combine has commenced the production of frontal ceramic brick. The new product is in great demand by builders -- the clean surface and light tone of the brick makes it possible to make dwellings and public buildings smart and attractive. A large batch of this brick has been ordered by the restorers of the Kiev-Pecherskiy Monastery, who believe that it conforms more to what the Kiev masters built during olden times. /by M. Martynov/ /Text/ /Moscow STROITELNAYA GAZETA in Russian 11 Dec 85 p 2/ 7026

WINDOW FRAME PRODUCTION--Tomsk--In conformity with the plan for re-equipping in the Carpentry Products Department of the Tomsk Lumber Combine, the automatic lines Oka-12 and Oka-13 have been installed. Their production will make it possible to double the production of window frames for new construction projects in this rapidly growing Siberian city. The automation of the production of this type of carpentry product is by no means an easy task. The installation of the frame in a stable manner is not too difficult a task. But the finishing work is painstaking. A considerable amount of time is spent installing the fittings: locks, hinges and small window latches. The most laborious operation is that of installing the latch pins -- up to 10 workers are constantly engaged in carrying out this work. One half of them can now be sent to other sectors, with the remaining workers merely exercising control over the technological process. The economic effect from the introduction of this "frame" mechanism -- 60,000 rubles annually. /by V. Yegorov, department head at the Tomsk Lumber Industry Complex/ /Text/ /Moscow STROITELNAYA GAZETA in Russian 15 Dec 85 p 2/ 7026

NEW TECHNOLOGICAL LINE--Navoi--The installation of a third technological line for the "dry" method of producing products has commenced at the Navoi Cement Plant. Compared to the previous one, the new line has been modernized. It is cheaper and easier to service. Moreover, its annual capability is in excess of 150,000 tons. The service life of the lining is increased by several times. Once it has been placed in operation in 1987, the plant will become the largest supplier of "grain" buildings in Uzbekistan. /by Sh. Shakhapov/ /Text/ /Moscow STROITELNAYA GAZETA in Russian 11 Dec 85 p 2/ 7026

CONSTRUCTION DECREES APPROVED--SNiP /Construction Norms and Regulations/ 3.09.01-85 entitled "Production of Precast Reinforced Concrete Structures and Products," developed by VNIIzhelezobeton /All-Union Scientific Research Institute of Reinforced Concrete/ of USSR Minstroymaterialy /Ministry of the Construction Materials Industry/, NIIZhB /Scientific Research Institute of Reinforced Concrete of USSR Gosstroy and Giprostroymash /All-Union State Planning and Design Institute of the Giprostroyindustriya/, has been approved by USSR Gosstroy and placed in operation effective 1 January 1986. Commencing 1 January 1986, the following decrees are declared invalid: Decree No. 223 of USSR Gosstroy dated 29 December 1972 "Approval of the Instruction on the Production, Testing and Acceptance of Reinforced Concrete Vibro-Hydraulic Extruded Delivery Pipe," Decree No. 50 of USSR Gosstroy dated 26 April 1976 "Approval of the Instruction on the Production of Structures and Products From Concretes Prepared on the Basis of Porous Aggregates," Decree No. 189 of USSR Gosstroy dated 17 November 1976 "Instruction on the Preparation of Fine-Grained (Sandy) Concretes," Point 1 of Decree No. 26 of USSR Gosstroy dated 6 Marcy 1979 "Approval of the Instruction on the Technology for Preparing Heat-Resistant Concretes" and Decree No. 201 of USSR Gosstroy dated 18 December 1980 "Change in Point 1 of the Instruction on the Production, Testing and Acceptance of Reinforced Concrete Vibro-Hydraulic Extruded Delivery Pipe." /Text/ /Moscow EKONOMIKA STROITELSTVA in Russian No 11, Nov 85 p 49/ 7026

NEW MARBLE QUARRYING TECHNOLOGY--Sayanogorsk, Krasnoyarsk Kray--The Kibik-Kordonskiy quarry is the place where beautiful Sayan marble, which is supplied to hundreds of our country's cities, is quarried. The builders of palaces of culture, theaters, subway stations and hotels await it. "This year we intend to exceed the quarry's projected level by at least one-fourth," said N. Rybakov, director of the "Sayanmramor" Combine. Was it long ago that the quarry thundered with the sound of explosions that shattered the mountainous monolith into marble blocks, but at the same time severely damaged them? A more acceptable and economical method of extraction simply did not exist. But now explosions have become a rarity here. The introduction of a virtually waste-free technology for sawing the blocks with cable helped. In just the recent past an additional 15 cable sawing units have been introduced. [Excerpts] [Moscow STROITELNAYA GAZETA in Russian 6 Nov 85 p 3] 13149/12858

CARBAMIDE PRODUCTION--Dneprodzerzhinsk--At the Azot Production Association, the carbamide shop No 2 turned out the first output at the planned productivity of 330,000 tons a year. It was put into operation by the collectives of the Dneprometallurgstroy Combine of the republic's Ministry of Construction of Heavy Industry and of subdivisions of the Ukrainian SSR Ministry of Installation and Special Construction Work. [By STROITELNAYA GAZETA correspondent M. Stoykevich] [Text] [Moscow STROITELNAYA GAZETA in Russian 8 Jan 86 p 3] 9746

REINFORCED CONCRETE PRODUCTION--Kemerovo--At the KPD Plant in Kemerovo, a new shop went into operation for the production of products for nine-story houses of the "97th" series. When the new shop reaches planned capacity, the production of precast reinforced concrete at the enterprise will increase by a factor of 1.5. This will permit the local DSK [house-building combine] to introduce 240,000 square meters of housing space annually in the oblast center and region supported by it. [By N. Domozhirov] [Text] [Moscow STROITELNAYA GAZETA in Russian 3 Jan 86 p 2] 9746

PARQUET FLOORING FROM WASTES--Voroshilovgrad--A semiautomatic line for the manufacture of panel parquet flooring went into operation at the ZhBI Plant of the Voroshilovgradstroy Trust. For raw material, it does not use lumber but the wastes from sawmill operations. They are first converted into strips and then glued into panels. The line is designed for the production of 60,000 square meters of floor covering annually and is operated by one person. The utilization of wastes will make it possible to save lumber and 10,000 rubles a year. [By M. Mikhaylov] [Text] [Moscow STROITELNAYA GAZETA in Russian 8 Jan 86 p 3] 9746

1986 MATERIALS PLANS--Plans call for increasing the production of efficient types of structural materials--economical types of metal output, plastics and wallboard--by 6.5 percent. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 1, Jan 86 p 12] 13149/12858

REZINA CEMENT PLANT PRODUCES--Rezina, Moldavian SSR (TASS)--The Rezina Cement Plant, still under construction, has produced its first output. An industrial section designed to produce more than a million tons of cement a year has begun operation here. The enterprise will become one of the largest production facilities in the branch to produce output based on an advanced dry method. When it reaches rated capacity, the plant will be able to produce more than 3 million tons of cement annually. [Text] [Moscow STROITELNAYA GAZETA in Russian 5 Jan 86 p 1] 13149/12858

CSO: 1821/102

END

END OF FICHE

DATE FILMED

9 April 86